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A Unified Seismotectonic Zonation of Northern Eurasia

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Abstract. A catalog and a 1 : 5,000,000 map of seismotectonic zonation of northern Europe were compiled using as a basis the Unified Catalog of Earthquakes of Northern Europe (1994, edited by N.V. Kondorskaya and V.I. Ulomov) and the Map and Database of Active Faults (1994, edited by V.G. Trifonov). The territory was divided into 450 uniform axial (seismicity is maximal along one or several axes) and flat (seismic characteristics are identical over the entire area) seismotectonic domains. Earthquakes with the maximal possible magnitude and their recurrence were determined for each of the domains, with the help of the five N.V. Shebalin methods using both seismological data and active fault parameters. The estimations were made separately, taking into account the intensity of Late Quaternary tectonic movements on regional faults and the active fault pattern. The results can be used to evaluate the ground motions, i.e., in mapping the general seismic zonation.

1. General Principles and Source Data

Maps of seismic zoning are based on seismotectonic zonation. The traditional method of such a zonation, identifying the possible earthquake zones (PEZ), is imperfect because it neglects the possibility of earthquakes to occur outside the PEZ zones, as well as the differing probability of their occurrence depending on the distance from the PEZ zone approximated by a line or from the axis of a PEZ–approximating band. Using northern Europe as an example, a new method for seismotectonic zonation of a wide territory is proposed using of only two independent geosystems: first, hypocenters of earthquakes with their gradation in magnitude, and second, active faults [Shebalin et al., 1996]. The determination and principles of identification of active faults were described by Trifonov in the paper presented in next issue of the journal.

Data on these faults were taken from the 1 : 2,500,000 map and database of active faults created by a collective of researchers in the course of realization of the II–2 project "The World Map of Major Active Faults" (chairman is V.G. Trifonov) of the International Lithosphere Program and Program 2.2 "Seismicity and Seismic Zonation of Northern Eurasia" (headed by V.I. Ulomov) involved in the State Science and Technology Program "Global Changes in Environment and Climate" [Trifonov et al., 1993; Trifonov, 1996, 1997]. Evidence on earthquakes was taken from the new (1994) "Unified Catalog of Earthquakes in Northern Eurasia from Ancient Times to 1992", edited by N.V. Kondorskaya and V.I. Ulomov and produced in the framework of the Program 2.2 mentioned above. The catalog includes all the seismic events with magnitudes of no less than 4.5 and the 1960–1992 events with magnitudes of no less than 3.5.

The unified seismotectonic zonation and determination of seismic parameters for such a wide and unevenly examined territory as Northern Eurasia could be successful only due to a group minimization of the data involved. The chosen parameters were only those determined for each fault and each earthquake. For an active fault, the parameters include: the geographical coordinates of points specifying the line of the fault occurrence on the surface; the total length of the fault; the intensity of motions (an average rate of movements in the Late Quaternary, determined with varying accuracy, from one order of magnitude to particular values); the structural–tectonic position meaning both a relationship with other active faults (their structural pattern) and the place of the fault in the neotectonic structure of Northern Eurasia; and the reliability of the fault data. For earthquakes, the parameters used in calculations and taken from the Unified Catalog are the geographic coordinates of their epicenters, magnitude, the hypocenter depth, and the reliability of the data. The date of the first earthquake noted in the territory examined was also allowed for.

The new method of seismotectonic zonation is based on the following premises. An earthquake is generated due to a rapid slip on an active, discovered or undiscovered, fault. The discovered active faults often, but not always, produce earthquakes. The earthquake epicenters represented by points form the concentration ranges (bands or clusters), the random (scattered) arrangement ranges, and the empty ranges (free of known earhquakes). Faults described by lines form the linearly extended system, arial systems, or zero systems (i.e., territories without found active faults). Since earthquake epiceneters and active faults have different geometric dimensions, their elementary (geometric) comparison on a map is not possible.

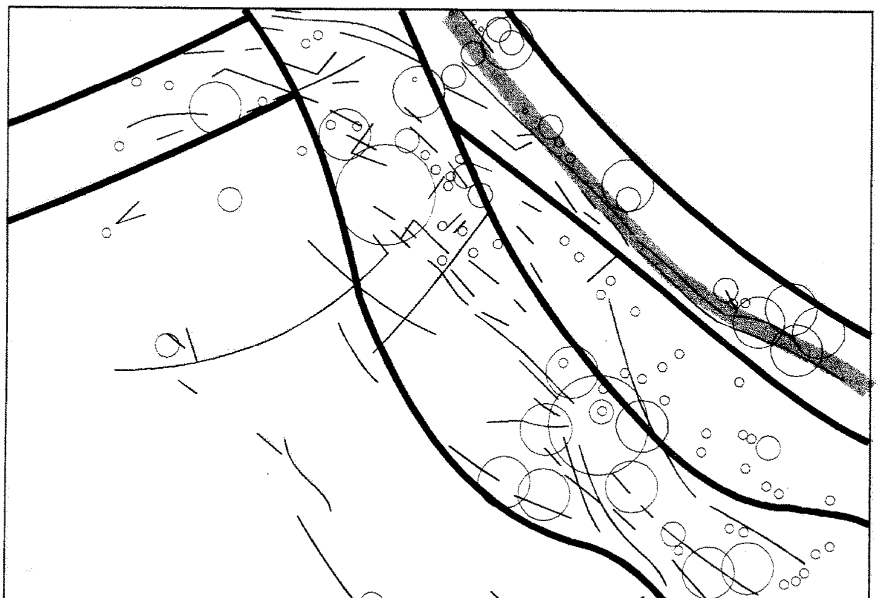

Fig. 1. Northwestern Zagros: examples of the domain identification from the location of active faults and earthquake epicenters. The thin lines are active faults, and the circles of differing radii are the epicenters of earthquakes with varying magnitude: < 5, 5—5.9, 6—6.9, and $\geqslant 7$. The gray band in the axial domain is the axial line.

The key notions of the proposed method are the seismotectonic domain and its seismic potential. Here, the seismotectonic domain means the projection onto the Earth's surface of a volume in which the same style of relationships is maintained between active faults and earthquake epiceneters. Two domain types were identified: axial and flat (Figs. 1 and 2). The axial domain "*a*" includes a linearly extended system of active faults and (or) a linearly extended band of epicenter concentration. This domain usually has one axis, but sometimes, two or, in single cases, even three axes are identified along the entire domain. The flat (uniform) domain "*f*" includes an area–developed or randomly surface–distributed system of active faults and (or) a random (scattered) system of earthquake epicenters, including the zero (empty) systems. The seismic potential of a domain is the maximal expectable magnitude M^*_{max} of an earthquake that has its epicenter within the domain and a certain period of recurrence. The distribution of M^*_{max} within a flat domain is uniform. The value of this magnitude in an axial domain reaches its maximum in the axial band 30 km wide, and in the side bands, the magnitude is lowered to values M^s and M^d approaching its values at the edges of the neighboring domains.

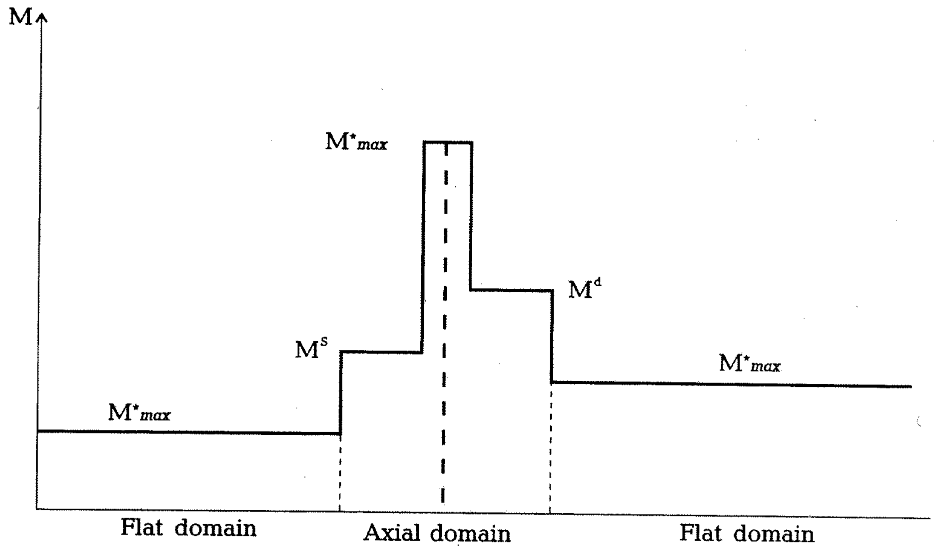

Fig. 2. Distribution of M^*_{max} within the "*a*" and "*f*" domains.

The data required for this study were selected from the database for active faults and the Unified Catalog of Earthquakes by A.I. Ioffe and A.I. Kozhurin at the Geological Institute, Russian Academy of Sciences. The map of domains was also digited at the Geological Institute. The catalog of domain parameters was compiled by N.V. Shebalin and R.E. Tatevosyan at the Schmidt Joint Institute of Physics of the Earth, Russian Academy of Science.

The domains were identified and outlined using a method of expert's assessment (Delphian version), the number of experts being three (one seismologists and two geologists). A more rigor approach to the determination (correction) of the domain boundaries based on the complete determination of domain parameters would be appropriate for use only in exclussively questionable cases, because the approach is labor–intensive. According to the approach, if a change in the boundary position causes a greater contrast in the domain parameters, the new position is considered correct; otherwise, the previous position is taken as correct. Methods for estimating $M^*_{\max}$ are described below.

2. Methods for Estimating the Seismic Potential in Domains

$M^*_{\max}$ is an expert's estimate of the maximal possible magnitude from five methods of particular estimates of $M^{(1)}$—$M^{(2)}$, proposed by N.V. Shebalin:

$M^{(1)}$ is the estimate by using the observed maximum magnitude $M^{\text{obs}}_{\max}$ and the duration of seismic observations $\Delta T_{\max}$ in a domain;

$M^{(2)}$ is the estimate by $M^{\text{obs}}_{\max}$ and the behavior of the right edge of the earthquake recurrence plot;

$M^{(3)}$ is the estimate by $\Delta T_{\max}$;

$M^{(4)}$ is the estimate by $L_{\max}$, the maximum length of an active fault falling into a domain in various tectonic situations;

$M^{(5)}$ is the estimate from the recent seismic activity characterized by the level a_4 of the recurrence graph for earthquakes with $M = 4$.

$M^{(1)}$ is determined from the empirical relation

$$M^{(1)} = M^{\text{obs}}_{\max} + \delta M^{(1)}(M^{\text{obs}}_{\max},\ T_{\max})\ ,$$

where $\delta M^{(1)}$ is found from Fig. 3.

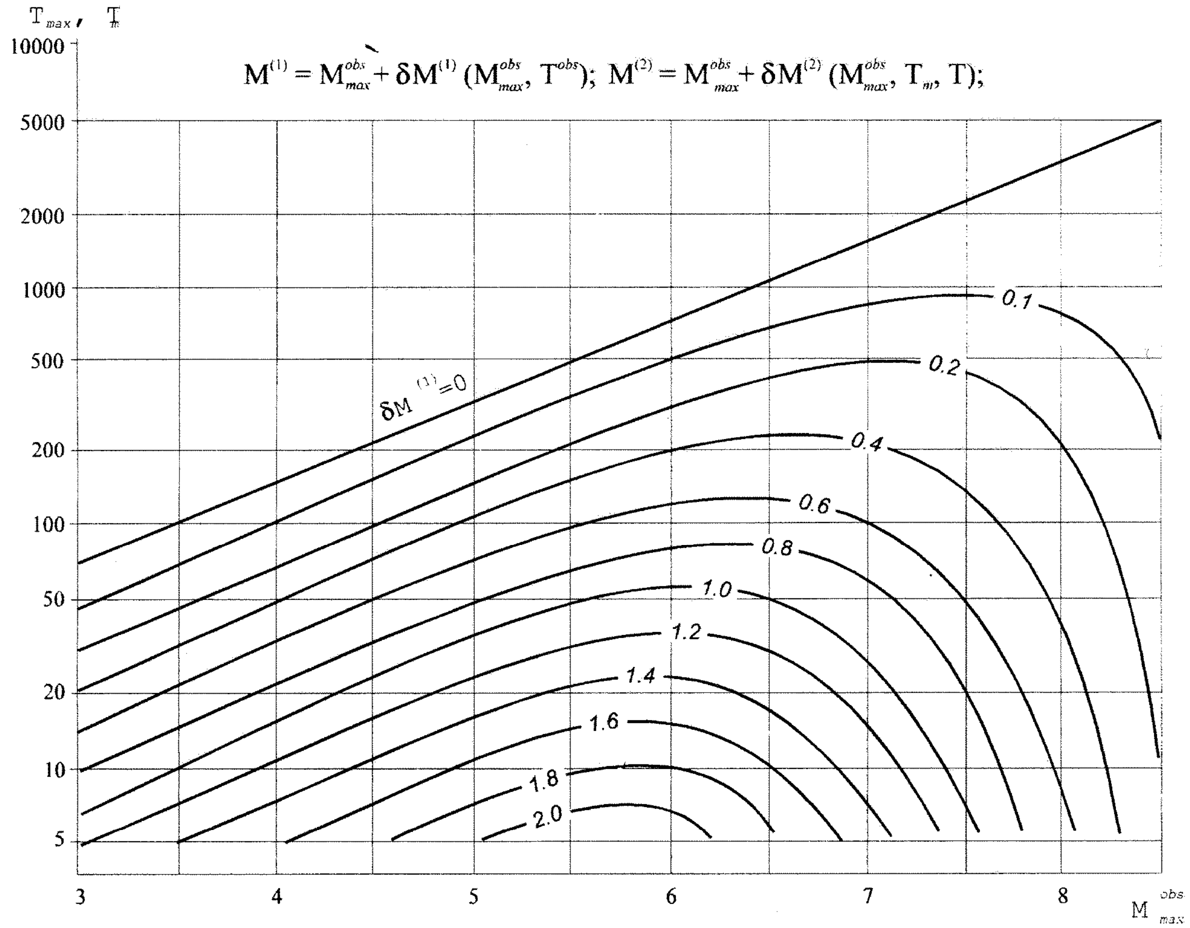

Fig. 3. Corrections $\delta M^{(1)}$ for various pairs of the $T_{\max}$ and $M^{\text{obs}}_{\max}$ values.

$M^{(2)}$ is determined from the empirical relation

$$M^{(2)} = M^{\text{obs}}_{\max} + \delta M^{(2)}[\delta M^{(1)}(M^{\text{obs}}_{\max}, T_{\max}), \ T_{\max} / T^1],$$

where $\delta M^{(1)}$ is given by Fig. 3, and its relation to $T_{\max} / T^1$, i.e., the value of $\delta M^{(2)}$ is found from Fig. 4. $\delta M^{(2)}$ is responsible for the bend of the earthquake recurrence curve. The bends may be directed upward ($M^{(2)} = M^{\text{obs}}_{\max}$) or downward. For the latter case, the correction was determined by the ratio between the actual (observed) recurrence $T_{\max}$ of an earthquake with $M^{\text{obs}}_{\max}$ and its recurrence calculated by the rectilinear recurrence graph (see Figs. 3 and 4). If the bend is absent, $M^{(2)} = M^{(1)}$

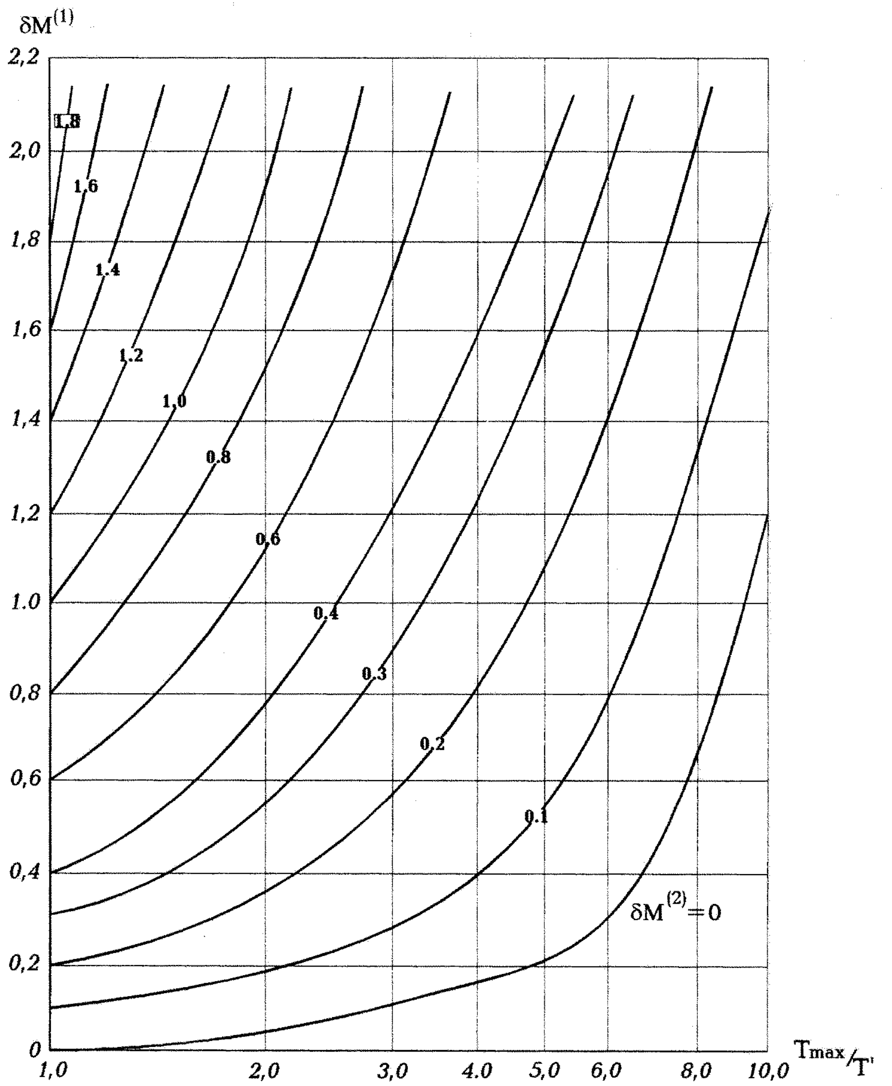

Fig. 4. Corrections $\delta M^{(2)}$ for various pairs of the $\delta M^{(1)}$ and $T_{\max} / T^1$.

$M^{(3)}$ was determined from empirical relations, for $T_{\max} = t_1$ (Fig. 5).

$M^{(4)}$ was evaluated by the maximum length $L_{\max}$ of an active fault provided that 10% of the ault length falls into the domain. The correlative relations between $M^{(4)}$ and $L_{\max}$ (Fig. 6) were

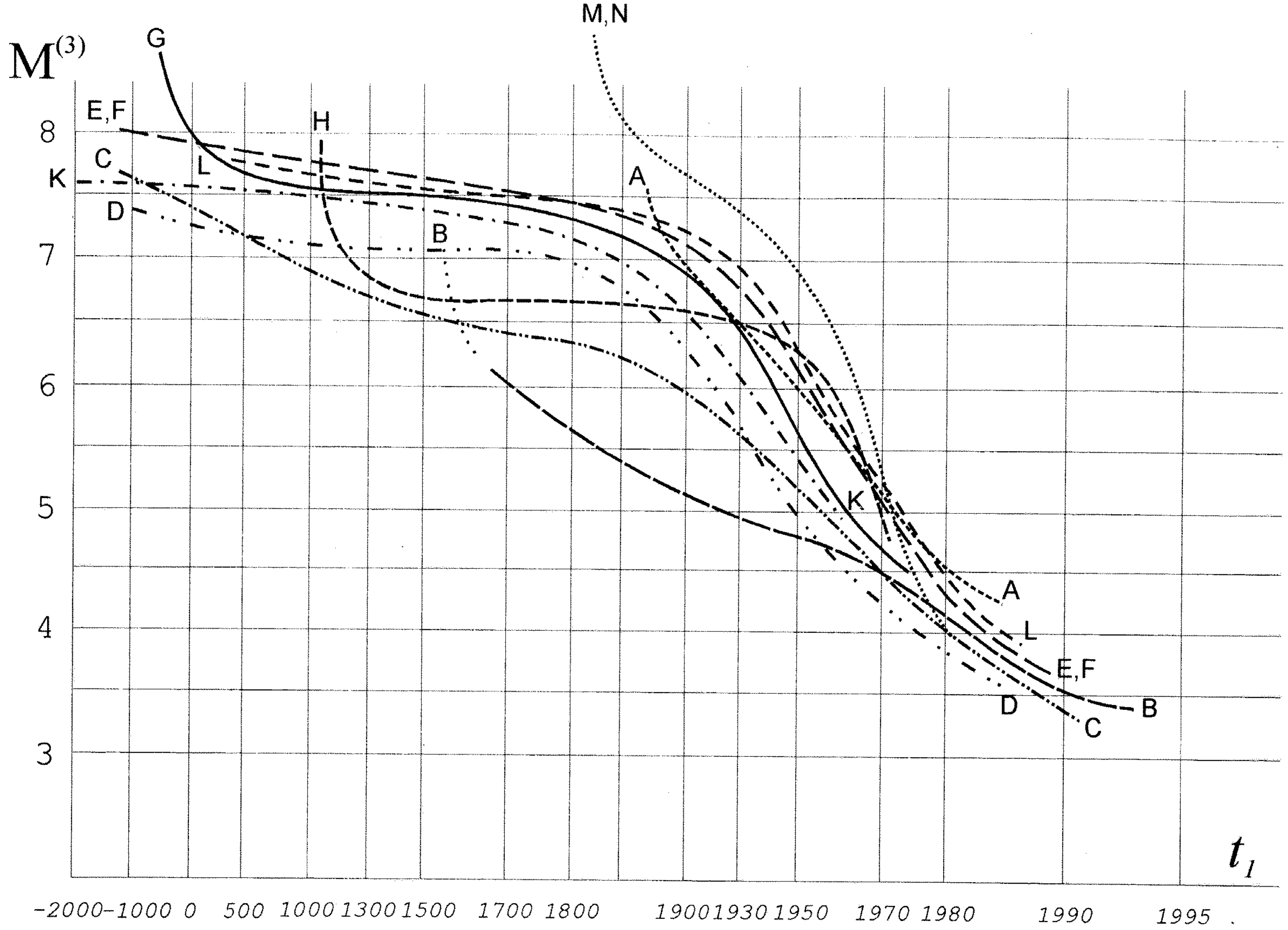

Fig. 5. $M^{(3)}$ versus t_1, the age (in years) of the earthquake first detected within a domain in regions A—N with varying times of representative detection of differing magnitude earthquakes (see Table 1). A, the Arctic; B, Russian Plate, Urals, and Baltic Shield; C, eastern Carpathians, Crimea, and Caucasus; D, Balkan Mountains and Carpathians to the south of C; E, Turkey and Iran; F, Turkmenistan; G, Central Asia; H, Siberia; K, Baikal, Sayans, and Altai; L, southern Central Asia to the south of G, H, and K; M and N, Kuriles and Kamchatka.

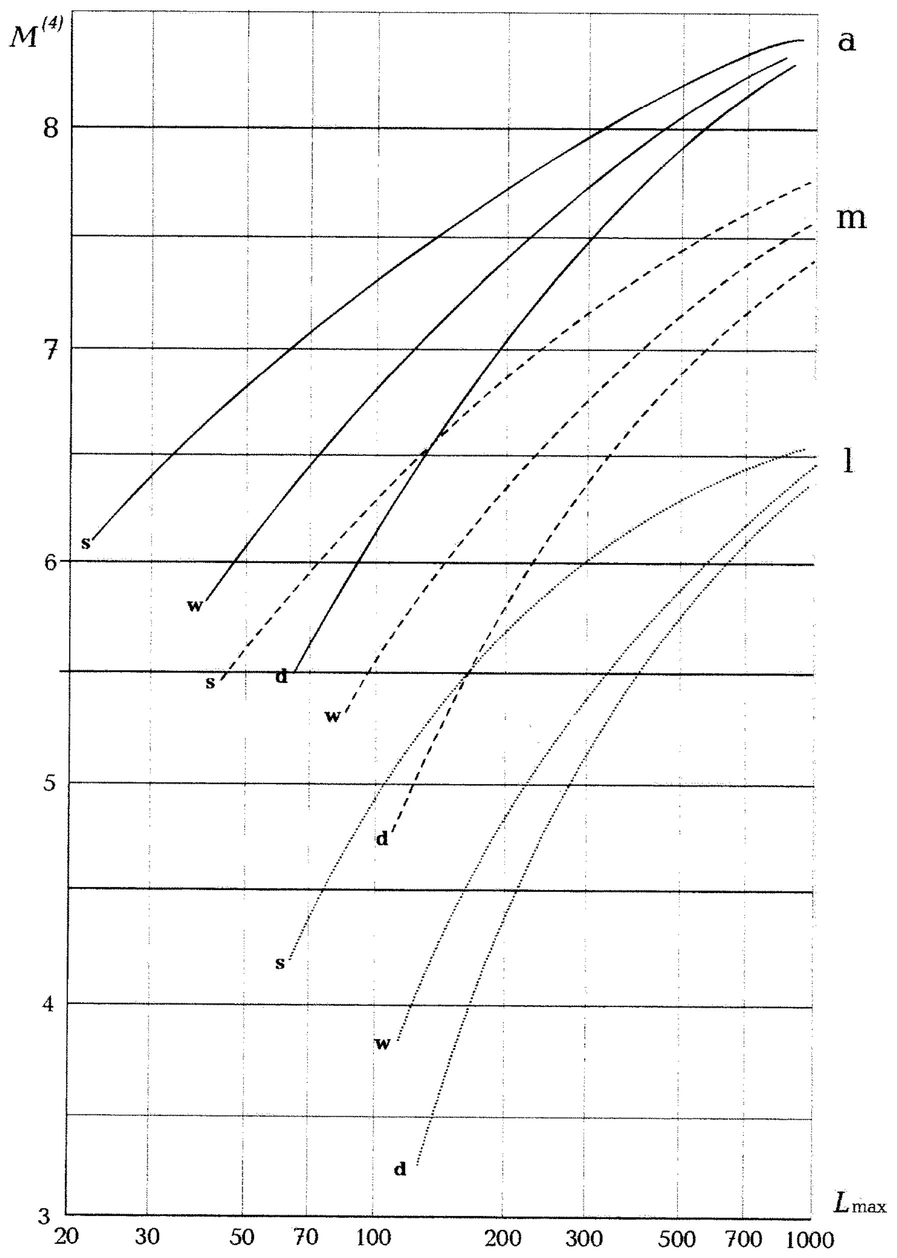

Fig. 6. $M^{(4)}$ versus L_{max} (km), the maximum length of an active fault falling, at least partly, into a given domain, for various patterns of fault system in a domain (*s*, single fault; *w*, weak system; *d*, developed system) and at various seismotectonic activities in the region (*a*, high activity; *m*, moderate activity; *l*, weak activity).

established depending on the level in the development of an active fault system in the domain (*s*, single faults; *w*, weak fault system; *d*, developed fault system) and on the level of seismotectonic activity of the domain area (*a*, active area; *m*, moderate activity; *l*, low activity).

$M^{(5)}$ was estimated from the correlation between a_4 and M_{max}^{obs} and $M^{(2)}$ (Fig. 7).

The determination of $M^{(3)}$ and the expert's estimation of M_{max}^{*} based on the five approaches indicated above took into consideration the date (in years counted back from 1993) of the representative detection of differing earthquake magnitudes in individual regions of Northern Eurasia (Table 1): A, the Arctic; B, the Russian Plate, Urals, and Baltic Shield; C, the eastern Carpathians, Crimea, and Caucasus; D, the Balkan Mountains and Carpathians toward the south of C; E, Turkey and Iran; F, Turkmenistan; G, Central Asia; H, Siberia; K, Baikal, Sayans, and Altai; L, the Central Asian south, south of G, H, and K; M and N, Kuriles and Kamchatka.

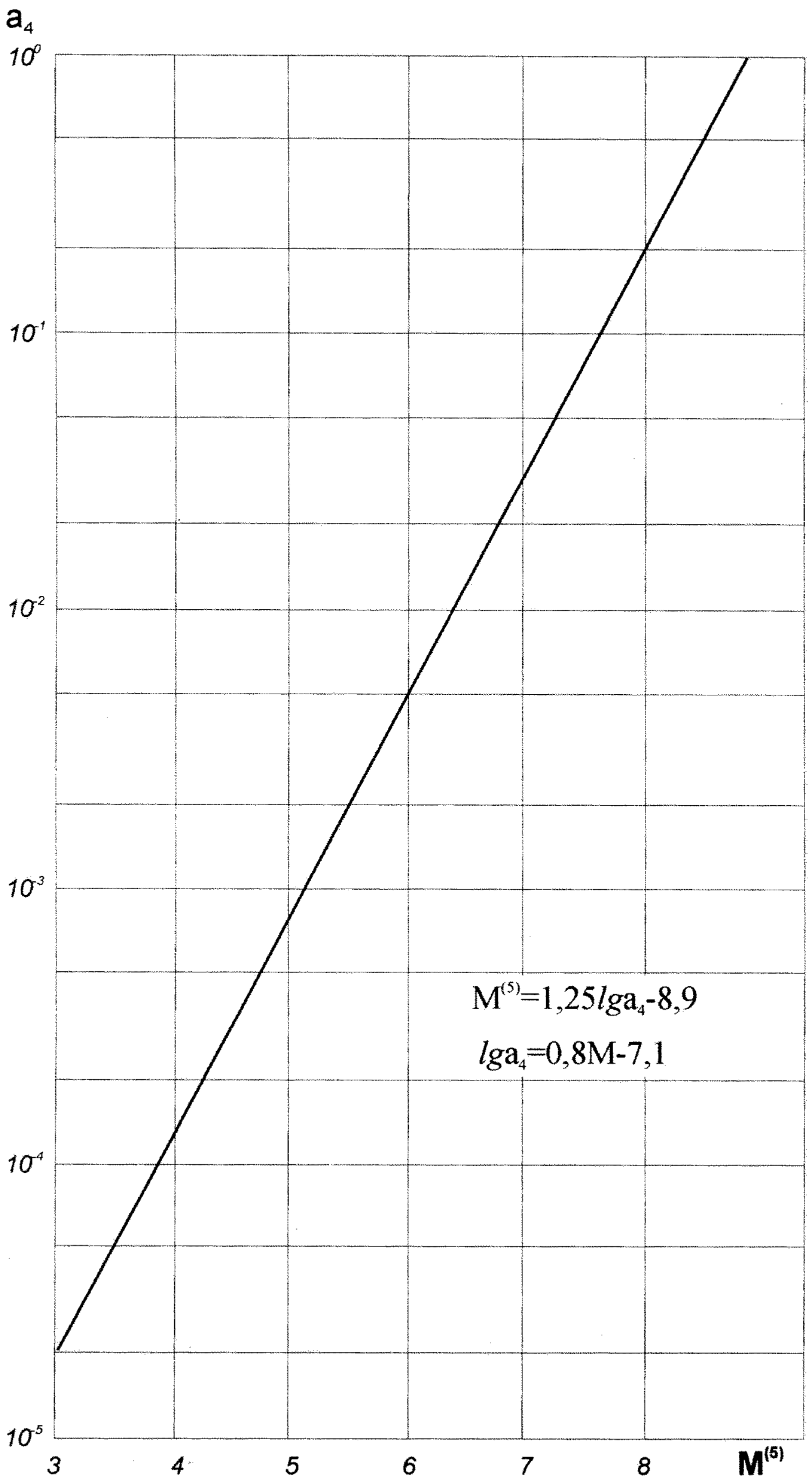

Fig. 7. $M^{(5)}$ versus the seismic activity a_4. $M^{(5)} = 1.251\ \log a_4 - 8.9$, $\log a_4 = 0.8M - 7.1$.

Table 1. Time of representative detection (in years counted back from 1993) of varying magnitude earthquakes over representative regions

Magn.	Representative regions											
M	A	B	C	D	E	F	G	H	K	L	M	N
3.0	–	(10)	(15)	(10)	(5)	(10)	(10)	(10)	(10)	–	(10)	–
3.5	(5)	(20)	20	(20)	(10)	20	20	20	20	(10)	20	–
4.0	20	45	30	30	20	30	30	30	30	20	45	–
4.5	30	60	95	60	50	40	40	40	45	30	45	20
5.0	50	140	95	95	90	65	60	60	65	45	75	30
5.5	75	200	140	140	990	95	95	70	95	65	80	50
6.0	95	300	200	300	200	200	110	90	140	90	95	95
6.5	95	500	800	500	300	300	160	140	140	100	95	140
7.0	95	500	1000	1000	500	500	250	200	200	100	95	200
7.5	95	500	1000	1400	600	600	300	270	270	140	95	270
8.0	140	1000	1000	1400	1000	1000	300	270	300	200	140	270
8.5	200	1000	1500	1400	1500	1000	400	270	300	300	270	270

3. Results of the Study

This study gave the 1 : 5,000,000 map and the catalog of seismotectonic domains for Northern Eurasia (Table 2). Figure 8 demonstrates a schematic copy of the map. The original map itself shows the type ("*a*" or "*f*") of the domains along with their boundaries and numbers, as well as the found values of M^*_{max}; furthermore, the axes of the axial domains were drawn and the mantle domains were shown. A total of 450 domains were identified, including 435 crustal (with detected earthquake hypocenter depths less than 70 km) and 15 mantle (only in areas of earthquakes with their hypocenters deeper than 70 km) domains. Among the crustal domains are 108 axial and 327 flat types. The dominance of the flat domain number offers possibilities of providing the map with more detail (see domain 286 in Fig. 1). The number of the crustal domains that have no known faults is 103, and 80 crustal domains do not contain detected earthquakes.

The catalog lists only the following parameters of the crustal domains:

Z is the region (A—N) identified by the representative seismological data (Table 1);

the subscript 1 indicates the domain number;

t is the domain type ("*a*" or "*f*");

S is the domain area (in thousand kilometers) measured with an accuracy of 3%, and in some case, of up to 10%;

L is the level of representative seismological data sampe (*z*, there is no data; *t*, very low level; *w*, low level; *s*, moderate level; *m*, moderately high; *c*, high; and *g*, very high level);

N is the number of epicenters within a domain according to the Unified Catalog of Earthquakes for Northern Eurasia;

M^{obs}_{mx} is the maximum earthquake magnitude known within a domain;

lat and *lon* are the latitute and longitude of an earthquake with M^{obs}_{mx} within a domain;

M^{obs}_{mn} is the minimum magnitude known within a domain;

h^{obs}_{mx} and h^{obs}_{mn} are the maximum and minimum depths of earthquake sources within a domain;

t_1 is the year of the first earthquake detected within a domain;

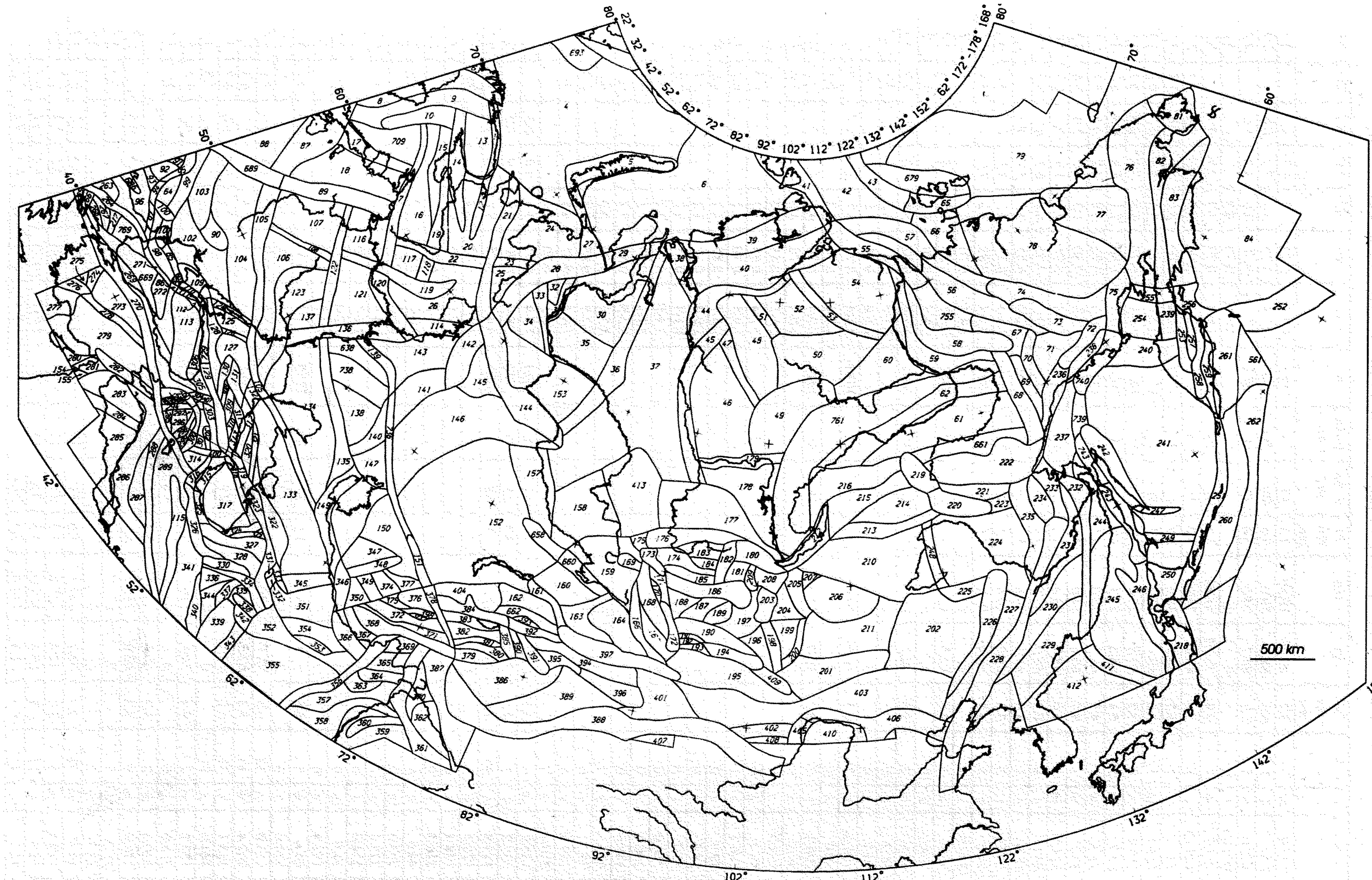

Fig. 8. Simplified map of the crustal seismotectonic domains in northern Eurasia.

Table 2. Catalog of seismotectonic domains in northern Eurasia

$Z^{1}t$	S	L	N	M obs mx	lat	lon	M obs mn	h obs mx	h obs mx	t_1	a_4	b	M^1	M^2	M^3	M^4	M^5
E001f	110.0	w	1	3.9	80.50	59.30	3.2	33	33	1983	4.5-4	0.70	4.7	4.7	4.4		4.7
E002a	3.6	s	1	6.6	82.0	30.0	6.6	20	20	1908	1.5-1	0.75	7.3	7.3	6.8		7.9
E003f	160.0	w	5	3.8	80.7	24.0	3.6	33	10.	1971	5.7-4	0.70	4.5	4.8	5.0		4.8
E004f	1000.0	z	0		0.	0.					2.8-5	0.70	4.3				3.2
E005a	127.5	w	7	3.9	71.24	51.80	3.5	10	10	1973	7.8-4	0.70	4.7	5.1	4.9		5.0
E006f	1300.0	t	1	3.6	82.00	75.00	3.6	33	33	1976	2.2-5	0.70	4.4	4.4	4.8	5.4	3.1
C007a	73.7	t	1	3.5	64.5	30.0	3.5	5	5	1957	1.6-4	0.80	3.9	3.9	4.8	5.8	4.1
C008f	121.3	m	5	5.0	69.7	27.2	3.5	30	15	1758	3.2-4	0.75	5.1	5.3	5.7	6.3	4.4
C009f	110.0	w	3	4.2	67.3	26.0	3.5	20	10	1965	1.6-3	0.75	4.8	5.2	4.8	5.9	5.3
C010f	69.3	m	16	5.1	64.3	27.6	3.5	30	10	1626	4.4-4	0.80	5.1	5.3	6.3	6.5	4.6
C011a	33.0	w	2	4.5	69.1	35.3	4.1	20	20	1917	1.0-3	0.80	4.8	4.8	5.1	5.9	5.1
C012a	27.2	w	1	4.5	66.0	44.0	4.5	10	10	1936	1.5-3	0.80	5.0	5.0	5.0	5.6	5.3
C013f	127.9	m	3	5.0	68.7	33.3	4.2	22	20	1772	4.0-4	0.75	5.1	5.4	5.7	6.3	4.6
C014a	89.0	s	8	6.3	66.0	35.5	3.9	25	10	1626	1.0-3	0.75	6.6	6.3	6.8	6.3	5.1
C015f	68.9	t	1	3.0	65.6	34.0	3.0	10	10	1958	3.2-4	0.85	3.2	3.8	4.7	5.0	4.4
C016f	137.6	t	2	3.5	65.0	30.0	3.5	20	10	1910	1.4-4	0.75	3.5	4.1	5.1	5.8	4.0
C017f	63.0	t	5	3.2	59.4	28.1	3.0	5	5	1881	3.4-4	0.85	3.2	4.0	4.8	3.5	4.5
C018f	190.0	z	0		0.	0.					3.4-5	0.70	3.2			5.3	3.2
C019f	56.6	w	3	4.5	62.5	43.0	3.0	20	10	1812	9.4-5	0.85	5.0	5.0	5.6	5.4	3.8
C020f	188.3	z	0		0.	0.					2.8-5	0.70	3.2			5.1	3.2
C021f	96.8	m	2	5.3	62.5	55.0	5.3	15	10	1897	2.3-4	0.80	5.8	5.3	5.2	6.0	4.3
C022a	56.2	z	0		0.	0.					7.1-5	0.85	3.2			4.3	3.7
C023a	19.7	z	0		0.	0.					1.7-4	0.85	3.2			5.6	4.1
E024f	250.0	t	2	3.5	66.0	55.0	3.5	15	10	1914	2.4-4	0.70	3.8	3.8	6.7	4.5	4.3
C025f	38.0	z	0		0.	0.					1.4-4	0.70	3.2			5.3	4.0
C026f	206.3	t	2	3.5	59.0	55.8	3.0	10	5	1911	1.0-4	0.70	4.1	4.1	5.1	5.7	3.9
E027a	56.2	z	0		0.	0.					5.0-4	0.70	4.3			5.9	4.7
C028f	154.9	z	0		0.	0.					2.6-5	0.85	3.2			7.2	3.2
H029f	53.4	z	0		0.	0.					7.5-4	0.85	3.2			6.9	5.0
H030f	286.1	z	0		0.	0.					1.9-5	0.70	3.2			6.9	3.0
H031f	29.0	z	0		0.	0.					1.8-4	0.85	3.2			6.5	4.2
H032f	18.6	z	0		0.	0.					2.9-4	0.70	3.2			5.1	4.4
H033f	35.7	z	0		0.	0.					1.1-4	0.85	3.2			6.5	3.9
H034f	716.0	z	0		0.	0.					7.4-5	0.70	3.2			6.4	3.6
H035f	240.0	z	0		0.	0.					2.2-5	0.70	3.2			6.5	3.1
H036a	180.6	z	0		0.	0.					2.2-5	0.85	3.2			6.5	3.1
H037f	626.1	z	0		0.	0.					8.5-6	0.70	3.2			6.5	2.7
H038f	55.7	z	0		0.	0.					7.2-5	0.85	3.2			6.2	3.6
E039f	179.9	z	0		0.	0.					1.4-4	0.85	4.3			4.6	4.1
E040f	310.4	z	0		0.	0.					9.0-5	0.70	4.3				3.8
E041f	145.0	m	4	5.0	80.7	99.6	3.6	33	10	1924	7.7-4	0.75	5.6	5.8	6.5		5.0
E042f	339.2	t	1	3.5	79.5	113.2	3.5	33	33	1976	2.8-4	0.70	4.9	4.9	4.9		4.4
E043a	113.8	c	40	6.8	78.2	127.2	3.5	84	3	1909	9.4-3	0.75	8.0	6.8	6.8		6.3
H044a	120.3	z	0		0.	0.					3.3-5	0.85	3.2			5.6	3.3
H045a	148.4	z	0		0.	0.					2.7-5	0.85	3.2			6.0	3.2
H046f	316.3	z	0		0.	0.					1.7-5	0.70	3.2				2.9
H047a	44.6	z	0		0.	0.					9.0-5	0.85	3.2			6.4	3.0
H048f	203.0	z	0		0.	0.					2.6-5	0.70	3.2			5.2	3.2
H049f	225.4	z	0		0.	0.					2.4-5	0.70	3.2			6.6	3.1
H050f	254.6	z	0		0.	0.					2.1-5	0.70	3.2				3.0
H051a	31.9	z	0		0.	0.					1.2-4	0.85	3.2			5.7	3.9
H052f	152.4	z	0		0.	0.					3.5-5	0.70	3.2				3.3
H053a	63.6	w	1	4.6	67.5	119.4	4.6	20	20	1975	2.1-3	0.80	5.7	5.7	4.5	6.5	5.6
H054f	330.0	z	0		0.	0.					1.6-5	0.70	3.2				2.8
H055a	115.0	c	32	6.8	70.1	129.3	3.5	37	12	1927	4.9-3	0.75	8.5	6.8	6.6	7.1	6.0
H056f	202.4	w	11	4.3	67.3	139.6	3.7	33	12	1965	1.6-3	0.75	5.1	4.5	5.5	6.4	5.4
H057a	163.1	s	21	6.2	69.5	138.5	3.5	33	1	1918	3.3-3	0.75	7.1	6.2	6.6	6.9	5.8
H058f	144.0	z	0		0.	0.					3.7-5	0.70	3.2			5.8	3.3
H059a	127.2	w	2	4.4	70.8	126.6	3.9	33	33	1975	1.0-3	0.75	5.4	5.4	4.5	6.2	5.1
H060f	213.9	z	0		0.	0.					2.5-5	0.70	3.2			6.2	3.1
H061f	300.0	w	2	3.9	60.6	131.8	3.3	15	15	1962	1.1-4	0.75	4.5	4.5	5.7		3.9
H062f	240.0	m	9	5.2	62.0	135.5	3.5	40	12	1924	1.6-3	0.80	5.9	6.6	6.6		5.3
C063f	55.0	z	0		0.	0.					9.7-5	0.70	3.2			6.6	3.8
A064f	24.7	z	0		0.	0.					1.4-4	0.70	3.1				4.0
E065f	78.0	m	11	4.9	74.2	147.1	3.6	33	10	1970	5.9-3	0.75	6.1	6.4	5.1	6.0	6.2
E066f	132.9	m	4	5.0	72.2	137.8	3.5	33	15	1969	1.7-3	0.75	6.1	6.1	5.1	5.5	5.4
H067a	55.9	s	11	6.4	65.8	137.0	3.5	33	16	1951	1.7-3	0.75	7.4	6.4	6.2	6.7	5.4
H068a	92.1	s	10	6.5	61.3	137.4	3.5	30	15	1776	1.5-3	0.75	6.9	6.5	7.2	7.0	5.3

M* mx	T* mx	T** mx	M_s	M_d	n	l mx	Number of faults with length of												XY
							1	2	3	4	5	6	7	8	9	10	11	12	
5.0	160*	70			0		0	0	0	0	0	0	0	0	0	0			s
7.0	360*	140	6.0	6.0	0		0	0	0	0	0	0	0	1	0	0			ms
5.0	120*	45			0														
4.0	40*	17			0														
5.0	130*	55	4.5	4.5	0											1			ss
4.0	35*	15			4	362	0	0	0	0	0	0	1	1	2				sw
4.5	220*	95	4.0	4.0	7	474	0	0	0	0	0	3	8	2	0	1			sd
5.5	380*	140			4	287	0	0	0	0	0	1	0	2	0	0			md
5.0	70*	30			9	216	0	0	0	1	1	3	2	2	0				md
5.5	500*	200			4	220	0	0	0	0	0	2	0	2	0				mw
5.0	210*	75	5.0	4.5	28	204	0	0	0	2	14	8	3	1					md
5.0	160*	60	4.5	4.5	9	173	0	0	0	0	1	1	6	1	0				md
5.0	110*	40			59	304	0	0	2	11	20	15	7	3	1				md
6.5	1500+	600	5.5	5.5	40	304	0	0	1	2	14	10	10	2	1				md
4.5	900*	400			18	227	0	0	2	0	3	5	6	2	0				sd
4.0	55*	20			4	227	0	0	0	0	0	0	3	1	0				ss
4.0	50*	20			3	139	0	0	0	0	1	1	1						sw
3.5	80*	35			10	151	0	0	1	1	1	3	3	1					ss
5.0	160*	60			17	166	0	0	0	1	2	2	5	1					sd
4.0	200*	90			13	122	0	0	0	0	3	4	6	0					ss
5.5	900+	400			22	?	0	0	0	0	5	9	5	2	0	1			md
4.5	560*	250	4.5	4.5	18	?	0	1	1	1	5	3	5	2	0				sw
4.5	560*	250	4.5	4.5	2	190	0	0	0	0	0	0	0	2	0				ss
4.0	105*	40			16	204	0	1	1	1	0	7	4	2					sw
4.0	200*	90			8	331	0	0	0	0	2	2	3	0	1				sw
4.0	55*	20			5	435	0	0	0	0	0	1	2	1	0	1			sw
4.5	105*	40	4.5	4.5	8	551			1	1	1	2	0	2	0	1			sw
5.0	1200*	700			82	647	0	4	6	9	15	17	12	13	3	2	1		md
4.5	560*	250			6	326	0	0	0	0	0	0	2	3	1	0			mw
3.5	80*	35			32	781	1	1	4	5	4	2	3	4	4	3	1		sd
4.5	560*	250			8	1385	0	0	0	0	1	0	2	0	3	1	0		sw
4.0	200*	90			4	274	0	0	0	0	0	0	3	0	1	0			sw
4.5	560*	250			9	1385	0	0	0	0	0	0	2	0	4	0	2		sw
3.5	80*	35			13	827	0	3	0	1	1	0	1	1	4	0	2		sw
4.0	200*	90			11	1385	0	0	0	0	0	0	0	1	5	1	3		sw
5.0	1200*	700	4.5	4.5	27	1385	0	0	0	0	0	0	2	4	11	6	2		sd
4.0	200*	90			23	1385	0	0	0	0	0	1	2	3	10	5			sd
4.5	560*	250			8	737	0	0	0	0	0	0	0	2	5	0	0	1	sw
4.5	105*	40			4	213	0	0	0	0	0	0	0	4	0				sw
3.5	10*	5			0														
5.5	120*	50			0														
5.0	90*	40			0														
7.0	330*	130	6.0	6.0	0														
4.5	560*	250	4.0	4.0	7	435	0	0	0	1	1	0	2	1	1	1			sw
4.5	560*	250	4.0	4.0	9	680	0	0	0	0	0	0	3	3	1	0	2		sw
3.5	80*	35			0														s
4.5	560*	250	4.0	4.0	1	629	0	0	0	0	0	0	0	0	0	0	1		ss
3.5	80*	35			1	130	0	0	0	0	0	0	1	0	0	0	0		ss
4.0	200*	90			1	953	0	0	0	0	0	0	0	0	0	0	1		ss
3.5	80*	35			0														s
4.0	200*	90	4.0	4.0	2	208	0	0	0	0	0	0	0	2	0	0	0		ss
3.5	80*	35			0														
5.5	100*	40	4.5	4.5	2	756	0	0	0	0	0	0	0	0	0	1	1		ss
3.5	80*	35			0														
7.0	750+	280	6.0	6.0	15	400	0	0	0	1	2	5	2	2	2	1			mw
5.0	570-	80			11	200	0	0	0	0	2	2	3	4	0	0			mw
6.5	120+	45	5.5	5.5	3	200	0	0	0	0	0	0	1	2	0	0			ms
4.5	560*	250			3	269	0	0	0	0	0	1	0	1	1	0			ss
5.5	160*	60	5.0	5.0	18	593					1	3	5	4	2	3			sd
4.5	560*	250			4	666	0	0	0	0	0	0	0	1	2	0	1		ss
4.5	100+	40			0		0	0	0	0	0	0	0	0	0	0			s
5.5	30*	15			0														s
5.0	1500*	360			1	250	0	0	0	0	0	0	0	0	1	0			mw
4.5	560*	260			0		0	0	0	0	0	0	0	0	0	0			s
6.0	100*	40			6	141	0	0	0	2	2	0	2	0	0	0			mw
5.5	65*	25			4	171	0	0	0	0	2	0	1	1	0	0			ss
6.5	720+	280	5.5	5.5	14	400	0	0	0	0	2	5	2	2	2	1			md
7.0	1600+	630	6.0	6.0	15	580	0	0	0	0	3	2	3	4	1	2			md

H069f	38.7	z	0		0.	0.					1.4-4	0.70	3.2			6.4	4.0
H070a	43.6	m	4	5.6	61.5	140.4	3.9	33	20	1971	4.6-3	0.75	7.0	6.2	4.9	6.4	6.0
H071f	75.8	m	19	5.6	61.8	147.1	3.5	33	5	1964	1.9-3	0.80	6.8	6.2	5.7	7.3	5.5
H072a	47.3	c	3	7.1	61.25	150.75	3.9	33	14	1933	2.0-3	0.75	7.9	7.1	6.4	6.6	5.5
H073f	80.1	c	40	7.1	64.0	146.1	3.7	33	5	1971	1.1-2	0.75	8.2	7.1	4.9	6.7	6.4
H074f	141.8	m	34	5.6	62.9	151.2	3.3	46	5	1932	5.2-3	0.80	6.5	7.0	6.5	6.7	6.1
H075f	55.0	m	8	5.2	61.55	158.8	3.5	15	10	1970	2.0-3	0.80	5.9	5.9	5.0	6.9	5.6
H076f	326.0	w	17	4.5	61.5	163.83	3.6	33	5	1964	1.6-3	0.75	5.3	5.1	5.5	6.2	5.4
E077f	212.0	w	3	4.2	70.6	161.3	4.0	33	15	1941	2.7-4	0.70	4.7	5.1	6.1	5.2	4.4
E078f	68.5	w	3	4.4	63.99	153.5	3.5	5	5	1973	1.1-4	0.75	5.4	5.2	4.9	5.9	3.9
E079f	1260.0	z	0		0.	0.					2.2-5	0.70	4.3			6.1	3.0
E080f	467.6	z	0		0.	0.					6.0-5	0.70	4.3				3.6
H081f	116.0	c	32	6.9	66.5	-173.0	3.5	33	3	1928	5.1-3	0.85	7.7	7.3	6.5	6.7	6.0
H082f	167.5	z	6	4.4	64.2	174.0	3.6	15	10	1974	3.2-5	0.70	3.2			5.9	3.3
H083a	180.8	c	29	7.0	60.85	167.2	3.5	33	5	1957	2.8-3	0.75	8.0	7.4	6.1	6.2	5.7
E084f	712.5	w	8	5.7	62.0	-178.0	3.5	25	0	1933	2.0-4	0.80	6.5	6.3	6.4	4.6	4.2
A085f	10.5	z	0		0.	0.					2.5-4	0.85	3.1				4.3
A086f	9.0	z	0		0.	0.					2.9-4	0.85	3.1				6.7
C087f	195.4	m	27	4.9	60.2	23.2	2.7	25	3	1616	5.4-4	0.80	4.9	5.0	6.7	6.1	4.8
C088f	100.5	t	3	5.3	53.0	24.2	3.6	40	0	1670	2.2-5	0.70	3.6	3.6	5.6	5.3	3.1
C089f	110.0	t	1	3.7	54.2	28.5	3.7	10	10	1887	3.6-5	0.80	3.7	3.8	5.3	5.5	3.3
C090f	38.0	m	1	4.9	48.83	30.77	4.9	20	20	1957	1.5-3	0.75	5.8	5.5	4.8	5.0	5.3
N091a	3.9	c	5	6.8	47.6	22.3	3.5	35	10	1829	3.1-2	0.75	6.8	6.9	6.9		7.0
N092f	19.8	z	0		0.	0.					2.7-4	0.65	3.2				4.4
N093f	9.9	w	2	4.0	45.3	23.5	3.5	16	0	1962	3.2-3	0.80	4.6	4.6	4.4		5.9
N094f	9.2	c	13	6.8	45.7	24.5	3.9	49	0	1523	1.5-2	0.75	6.8	6.8	7.1		6.6
N095f	7.2	w	37	4.7	46.2	23.9	2.3	30	3	1620	1.1-2	0.75	5.5	5.5	6.4		6.4
N096f	82.0	w	3	4.7	43.2	22.6	3.7	42	9	1940	1.6-3	0.75	5.3	5.3	5.2		5.3
N097f	113.6	m	3	5.0	44.8	26.7	4.5	60	30	1904	1.6-4	0.80	5.5	5.3	6.2		4.7
N098f	42.9	z	5	4.3	44.18	32.01	4.3	3	3	1988	1.2-4	0.70	3.2		6.2		4.0
N099f	47.0	m	26	5.0	46.0	26.5	2.0	40	0	1784	1.2-3	0.80	5.1	5.8	7.0		5.2
N100f	9.9	s	56	6.3	45.8	27.2	3.5	70	0	1734	6.3-2	0.85	6.6	6.9	7.1		7.3
N101f	11.9	c	11	6.8	44.5	28.5	3.5	70	0	1865	9.6-3	0.75	6.8	6.8	6.7	5.4	6.3
C102f	174.0	m	3	5.5	46.60	27.3	3.3	100	10	1906	6.6-4	0.75	5.3	5.9	5.4	5.6	4.9
C103f	120.0	m	18	5.3	50.3	24.2	2.7	19	2	1875	1.1-3	0.80	5.3	5.7	6.1	6.0	5.1
C104f	272.6	t	1	3.5	52.0	28.0	3.5	7	7	1983	8.2-5	0.70	4.5	4.1	4.0	6.2	3.8
C105a	186.5	w	6	4.5	42.9	56.5	3.5	33	5	1894	2.5-4	0.80	4.6	4.9	5.2	6.2	4.3
C106f	192.6	z	0		0.	0.					2.8-5	0.70	3.2			5.1	3.2
C107f	169.1	z	0		0.	0.					3.2-5	0.70	3.2			5.9	3.2
C108a	23.2	t	1	3.0	53.2	35.5	3.0	5	5	1903	5.7-5	0.85	3.0	3.0	5.1	4.7	3.6
A109f	30.5	w	0		0.	0.					8.6-4	0.75	6.0	4.5	3.5	5.2	5.1
A110f	10.0	m	2	3.9	44.78	34.53	3.8	17	14	1990	6.8-3	0.80	5.6	5.7	6.2	6.4	6.2
A111a	6.1	c	63	6.8	44.3	34.3	3.0	50	5	1292	1.4-1	0.75	6.9	6.8	6.8	7.6	7.8
A112f	4.7	m	4	5.5	44.6	35.8	3.5	55	30	1902	3.6-2	0.80	6.1	5.5	5.9	8.1	7.1
A113f	112.7	w	6	4.0	41.37	40.52	3.8	20	0	1986	1.6-3	0.70	4.8	5.4	4.6	6.1	5.4
C114f	47.8	t	7	3.5	58.5	56.5	3.0	10	3	1837	2.6-4	0.85	3.5	3.9	5.4	5.8	4.3
F115a	90.0	c	30	7.2	35.6	49.9	3.7	61	0	986	2.0-3	0.75	7.3	7.2	7.8	7.5	5.5
C116f	104.0	t	1	3.5	57.2	39.4	3.5	15	15	1467	6.9-6	0.70	3.5	3.5		4.8	2.0
C117f	42.8	z	0		0.	0.					1.2-4	0.70	3.2				3.9
C118f	17.6	z	0		0.	0.					2.3-4	0.70	3.2			3.0	4.3
C119a	80.0	m	2	5.0	58.5	50.0	4.7	10	10	1809	4.4-4	0.80	5.2	5.2	5.1	5.9	4.7
C120a	66.1	m	5	5.0	56.2	46.5	3.0	5	5	1807	5.3-4	0.80	5.2	5.2	5.1	4.7	4.8
C121f	146.9	t	1	3.0	56.25	43.75	?.?	?	?	1596	2.7-6	0.70	3.0	3.0	6.3	5.8	2.0
C122a	22.6	z	0		0.	0.					1.8-4	0.85	3.2				4.2
C123a	133.8	m	6	4.8	53.0	40.0	3.5	15	5	1825	5.1-4	0.80	5.0	5.1	5.5		4.8
C124f	19.0	w	3	4.2	46.39	37.71	3.3	34	10	1814	1.2-3	0.80	4.2	4.6	5.6	5.3	5.2
C125f	31.0	z	0		0.	0.					1.7-4	0.70	3.2			4.4	4.2
C126f	7.5	w	2	4.3	46.3	40.9	3.5	16	3	1834	2.0-3	0.80	4.4	4.4	5.5	5.4	5.5
C127f	48.0	z	0		0.	0.					1.1-4	0.70	3.2			5.9	3.9
A128f	57.6	s	30	6.0	45.1	37.9	3.5	50	0	1799	2.8-3	0.80	6.4	6.0	6.5	6.6	5.8
A129a	20.0	g	264	7.8	41.0	48.0	3.1	50	0	-1250	2.8-2	0.70	7.9	7.9	7.7	7.8	6.9
A130a	17.0	m	41	5.6	43.9	42.8	3.3	33	0	1771	1.1-2	0.75	5.8	6.2	6.4	7.0	6.3
A131f	23.1	w	11	4.6	45.0	42.5	3.4	26	0	1812	9.6-4	0.75	4.7	4.9	6.3	4.3	5.1
A132f	12.0	z	1	6.0	44.5	47.0	6.0	60	60	1785	2.2-4	0.70	3.1			5.6	4.3
G133f	350.0	m	8	4.5	40.0	60.0	3.5	33	5	1913	2.2-4	0.75	4.8	4.8	5.1	5.6	4.3
H134f	397.6	z	1	4.0	47.3	53.0	4.0	33	33	1976	1.3-5	0.75	3.2				3.8
H135f	89.7	w	2	4.1	48.4	53.6	3.6	0	0	1974	3.7-4	0.80	5.0	4.7	4.5	5.8	4.5
C136a	84.5	t	1	3.7	55.05	52.3	3.7	10	10	1986	2.1-4	0.80	4.9	4.3	3.8		4.2
C137f	42.2	z	0		0.	0.					1.3-4	0.70	3.2				4.0
H138f	247.6	z	0		0.	0.					5.8-6	0.70	3.2				2.3
H139a	92.3	t	1	3.5	52.8	51.15	3.5	10	10	1986	1.9-4	0.85	4.7	4.1	3.8		4.2

5.0	1500*	360			1	115	0	0	0	0	0	0	1	0	0	0			ms
6.5	400*	150	6.0	6.0	16	313	0	0	0	0	5	3	3	3	2	0			md
6.0	430*	160			4	313	0	0	0	0	0	1	2	1	2	0			ms
7.3	3000+	1200	6.5	?.?	16	399	0	0	0	0	4	1	4	4	2	1			md
7.3	3000+	1200			22	418	0	0	1	3	3	3	3	5	3	1			md
6.5	200*	75			29	418	0	0	0	4	9	6	5	1	3	1			md
6.0	280*	110			22	541	0	0	1	2	1	5	4	5	2	2			md
5.5	180-	45			17	701	0	0	0	0	0	1	1	8	3	2	2		sd
5.0	120*	50			8	447	0	0	0	0	0	0	3	0	2	3	0		sw
5.0	95*	35			8	541	0	0	0	0	0	3	2	1	0	2			sw
4.5	110*	45			3	560	0	0	0	0	0	0	0	2	0	1			sd
4.5	105*	45			0														s
7.0	240*	95			7	251	0	0	0	0	0	0	1	5	1	0			mw
4.5	560*	250			5	680	0	0	0	0	0	1	0	2	1	0	1		sw
7.0	200*	75	6.0	6.0	4	760	0	0	0	0	0	1	1	1	0	0	1		sw
5.0	80+	35			4	211	0	0	0	0	0	1	2	1	0	0			sw
5.5	1400*	600			0														
5.5	560*	220			1	150	0	0	0	0	0	0	1	0	0	0			ms
5.0	420-	90			6	326	0	0	1	0	2	0	2	0	1	0			ss
4.5	1100*	430			1	140	0	0	0	0	0	0	1	0	0				ss
4.0	240*	90			31	326	0	0	2	3	2	6	10	3	5	0			sd
5.0	320*	120			5	260													sw
7.0	1200*	480	6.0	6.0	0														
4.5	260*	110			0														
5.5	570*	230			0														
6.8	2000-	500			0														
5.5	200*	75			0														
5.0	80*	30			0														
5.5	380*	135			0														
4.5	560*	250			0														
5.5	110*	40			0														
7.0	500*	190			0														
6.8	1800+	700			1	162	0	0	0	0	0	0	0	1	0				ss
5.0	40*	15			12	346	0	0	0	0	1	0	1	8	2	0			sd
5.5	210*	75			12	554	0	0	0	1	1	2	3	3	0	2			sd
4.5	140*	55			15	695	0	0	1	0	0	2	3	3	3	2	1		sd
5.0	160*	60	4.5	4.0	27	695	1	0	0	6	4	4	2	4	2	3	1		sd
3.5	80*	35			8	290	0	0	0	0	1	2	1	3	1	0			sw
3.5	80*	35			5	554	0	0	0	0	0	1	1	1	1	1	0		sw
4.0	630*	250	3.5	3.5	5	223	0	0	0	0	0	0	1	4	0	0			sw
5.2	550*	210			9	310	0	0	0	2	1	1	2	2	1	0			sw
5.5	170*	65			15	310	1	0	1	3	3	1	2	3	1	0			md
7.0	3000*	750	6.0	6.0	12	310	0	5	1	3	1	0	1	0	1	0			ad
6.0	300+	110			2	346	0	0	0	0	0	1	0	0	1	0			ac
4.5	35*	15			2	346	0	0	0	0	0	1	0	0	1	0			ss
4.5	230*	80			8	436	0	0	0	0	0	0	5	2	0	1	0		sw
7.5	1600+	600	6.5	6.5	27	300	0	0	2	4	6	6	4	4	1	1			ad
3.5	550*	210			9	242	0	0	0	0	2	3	2	1	0	0			sw
3.5	80*	35			0														s
4.5	560*	250			3	122	0	0	1	0	0	1	1	0					sw
5.0	190*	75	4.5	4.5	15	494	0	0	0	2	1	7	1	3	0				sd
5.0	100*	40	4.5	4.5	11	221	0	0	0	0	0	2	3	6	0				sw
3.5	1100*	400			7	494	0	0	0	0	0	0	2	4	0	1			sw
4.0	200*	90	3.5	3.5	0														sd
5.0	140*	55	4.0	4.0	0														sd
5.0	220*	90			4	346	0	0	0	0	0	0	0	3	1	0			sw
4.0	200*	90			8	199	0	0	1	0	1	0	1	5	0				sw
5.0	600*	240			1	165	0	0	0	0	0	0	0	1	0				ss
3.5	80*	35			3	266	0	0	0	0	0	0	0	2	1	0			ss
6.0	580+	220			28	382	2	1	3	9	5	2	3	2	1				md
7.8	1000-	250	6.5	6.5	120	388	20	8	13	35	20	14	1	5	4				ad
6.0	160*	60	5.5	5.5	13	388	0	0	0	1	4	4	1	1	2				mw
5.0	190*	75			2	73	0	0	0	0	1	1	0	0	0				ss
4.5	720*	320			1	188	0	0	0	0	0	0	0	1	0	0			ss
4.5	60*	25			43	365	6	3	8	8	5	7	3	2	1	0			sd
3.5	80*	35			0														s
4.5	85*	35			9	500													sw
4.5	100*	40	4.0	4.0	0														sw
3.5	80*	35			0														s
3.5	80*	35			0														sw
5.0	370*	140	4.5	4.5	0														sw

H140f	43.9	z	0		0.	0.					1.2-4	0.85	3.2				3.9
C141f	92.9	t	2	3.0	54.4	56.8	2.5	20	5	1879	1.5-5	0.85	3.0	3.0	5.3		2.8
C142f	78.4	m	28	5.5	56.8	59.4	2.3	25	4	1788	6.8-4	0.75	5.8	5.8	5.7		4.9
C143f	143.1	z	2	3.5	54.2	52.0	3.0	20	5	1904	2.7-5	0.85	3.5	3.5	5.1		3.2
H144a	179.8	m	7	5.8	56.4	73.0	3.6	30	10	1693	4.0-4	0.75	6.0	5.8	6.6		4.6
H145f	64.5	z	0		0.	0.					8.3-5	0.70	3.2				3.8
H146f	426.1	z	0		0.	0.					1.2-5	0.70	3.2				2.7
H147f	60.2	z	0		0.	0.					8.9-5	0.70	3.2				3.8
H148f	430.5	t	1	3.5	42.96	61.71	3.5	33	33	1976	4.1-5	0.70	4.3	4.1	4.4	5.6	3.3
B149a	85.3	s	17	6.1	42.0	60.0	3.5	60	0	1208	1.6-3	0.75	6.1	6.1	7.5	6.2	5.4
H150f	122.5	z	0		0.	0.					4.4-5	0.70	3.2			6.1	3.3
H151a	25.9	w	7	4.4	43.7	68.71	3.7	15	0	1930	3.1-3	0.80	4.9	4.6	6.4	6.9	4.5
H152f	850.0	w	4	3.9	46.5	74.0	3.5	15	0	1871	8.3-6	0.80	4.0	4.0	6.6	5.3	2.4
H153f	265.3	z	0		0.	0.					2.0-5	0.70	3.2				3.0
F154f	1.2	z	0		0.	0.					8.9-3	0.70	3.6			5.4	6.3
F155a	4.1	c	6	7.2	35.2	36.3	6.0	45	12	1151	5.8-2	0.75	7.3	7.3	7.9	7.4	7.3
H157f	150.0	z	0		0.	0.					3.6-5	0.70	3.2			6.0	3.3
H158f	239.9	s	28	5.9	50.7	81.2	3.5	32	10	1783	8.7-4	0.85	6.3	6.2	6.6	6.5	5.9
L159f	129.2	s	100	5.9	50.8	84.0	3.5	33	6	1761	4.8-3	0.80	6.2	6.6	7.2	6.6	6.0
B160f	100.1	m	86	5.5	46.3	83.0	3.5	20	15	1878	6.7-3	0.80	6.1	6.1	7.0	6.9	6.2
B161a	27.6	s	7	6.0	45.1	83.0	3.5	15	15	1874	2.4-3	0.75	6.6	6.0	7.1	7.0	5.6
B162f	58.0	s	102	6.4	44.58	80.83	3.5	40	0	1765	2.1-2	0.85	6.8	6.7	7.3	7.2	6.8
M163f	65.2	s	27	6.0	44.8	84.8	3.5	33	10	1885	5.1-3	0.85	6.7	7.2	7.3	7.3	6.0
M164f	100.0	m	4	5.5	45.0	88.0	3.5	20	15	1922	8.0-4	0.80	6.3	5.5	7.0		5.0
M166a	43.8	g	100	8.0	46.8	89.9	3.5	42	12	1917	1.1-2	0.70	8.3	8.0	7.1	8.0	6.4
M167f	45.0	m	28	5.5	45.1	93.6	3.5	20	15	1931	3.6-3	0.80	6.3	5.5	6.9	5.4	5.9
M168a	58.7	g	57	8.3	47.5	91.8	3.5	36	12	1761	9.0-3	0.70	8.4	8.3	7.5	7.8	6.3
L169a	15.5	s	37	6.0	50.2	86.9	3.5	28	8	1923	9.8-3	0.80	6.9	6.0	6.2	7.6	6.4
M170f	7.2	t	4	3.5	47.91	91.97	3.5	15	15	1963	7.8-3	0.70	4.6	4.6	5.6	3.5	6.2
M171f	18.5	m	22	5.4	49.5	91.4	3.5	33	15	1953	9.8-3	0.80	6.5	6.4	6.1	5.5	6.3
M172a	27.0	c	140	6.9	45.19	93.86	3.5	28	15	1920	3.8-2	0.75	7.6	6.9	7.0	8.0	7.2
L173f	20.7	c	375	7.0	50.17	91.23	3.5	30	6	1771	5.0-2	0.85	7.4	7.0	7.2	7.8	7.2
L174f	42.1	s	116	6.6	50.7	91.3	3.5	30	12	1902	1.4-2	0.80	7.3	6.6	6.6	6.6	6.7
L175f	30.2	m	15	5.3	52.0	88.5	3.5	22	15	1927	2.0-3	0.80	6.0	5.3	6.2	6.4	5.5
L176f	81.0	s	28	6.2	52.8	93.1	3.5	30	15	1879	2.2-3	0.80	6.7	6.2	6.8	7.2	5.6
H177f	243.7	s	42	6.0	53.8	90.5	3.5	16	5	1806	1.0-3	0.85	6.4	6.0	6.6	7.2	5.2
H178f	179.3	t	1	3.5	55.16	102.19	3.5	15	15	1977	1.5-4	0.70	4.3	4.3	4.2		4.1
H179f	53.6	t	2	3.5	59.36	103.86	3.5	15	15	1973	8.2-4	0.70	4.1	4.5	4.8	5.0	5.0
L180a	51.2	c	180	7.7	51.5	104.0	3.5	36	5	1742	2.0-2	0.70	8.0	8.0	7.7	8.0	6.8
L181f	21.6	m	45	5.6	51.3	99.0	3.5	40	15	1950	1.3-2	0.80	6.6	6.0	5.4	6.4	6.5
L182f	30.6	s	204	6.5	51.03	98.19	3.5	30	3	1926	2.8-2	0.85	7.4	6.5	6.1	7.6	6.9
L183f	34.1	m	49	5.5	52.2	96.9	3.5	28	15	1938	8.2-3	0.80	7.0	7.0	5.7	6.7	6.3
L184f	13.8	m	7	5.3	51.0	96.5	3.5	20	15	1957	2.7-3	0.80	6.4	5.3	5.1	5.4	5.7
L185f	27.8	w	4	4.0	50.39	92.25	3.5	15	15	1961	1.1-3	0.70	4.6	4.6	5.0	5.6	5.2
L186a	81.7	g	214	8.2	49.3	96.2	3.5	25	8	1905	3.7-2	0.70	8.5	8.3	6.6	6.9	7.1
M187f	31.7	s	12	6.0	48.0	96.0	3.5	30	11	1923	2.7-3	0.85	6.9	6.8	7.0	5.6	5.8
M188f	29.4	z	0		0.	0.					1.4-3	0.70	4.0			3.0	5.3
M189f	24.2	z	0		0.	0.					1.6-3	0.70	4.0			3.2	5.4
M190f	66.1	s	45	6.1	45.8	98.5	3.5	20	15	1923	3.8-3	0.85	7.0	6.9	7.0	5.8	5.9
M191a	6.8	m	8	5.1	46.0	96.0	3.5	15	15	1938	1.8-2	0.75	5.8	5.7	6.6	7.3	6.7
M192f	5.7	z	0		0.	0.					7.0-3	0.70	4.0				6.2
M193f	10.4	w	6	4.6	45.34	96.15	3.5	15	15	1963	7.2-3	0.75	5.4	5.8	5.5	7.1	6.2
M194a	39.3	g	191	8.1	45.1	99.4	3.5	33	15	1886	3.6-2	0.70	8.4	8.1	7.3	7.1	7.1
M195f	184.2	m	41	5.7	42.5	103.0	3.5	15	14	1936	1.8-3	0.80	6.6	7.3	6.7	7.0	5.5
M196f	34.6	t	2	3.5	45.6	102.5	3.5	15	15	1966	8.2-4	0.70	4.0	4.3	5.4		5.0
M197f	58.4	m	21	5.4	47.0	98.1	3.5	20	15	1918	2.3-3	0.80	6.2	5.4	7.1	5.2	5.8
M198f	31.6	s	14	6.2	45.7	104.2	3.5	30	15	1933	1.2-2	0.85	7.2	6.8	6.9	4.8	6.4
M199f	38.9	t	1	3.5	46.5	106.2	3.5	15	15	1966	3.8-4	0.70	4.0	4.0	5.4		4.9
M200f	22.1	w	7	4.7	47.8	106.7	3.5	15	15	1947	3.1-3	0.70	5.3	5.3	6.4	5.0	5.5
M201f	170.8	m	10	5.0	45.2	114.8	3.9	15	15	1924	5.5-4	0.75	5.6	6.4	7.0	5.5	4.8
M202f	340.0	w	8	4.5	43.75	120.2	3.5	15	15	1969	3.8-4	0.75	5.5	6.1	5.2	6.2	4.6
L203f	31.2	g	370	7.8	48.2	102.9	3.5	25	11	1915	7.2-2	0.70	8.1	7.8	6.3	6.5	7.5
M204f	36.1	m	14	5.4	48.0	105.0	3.5	15	9	1925	4.6-2	0.80	6.2	6.0	7.0	6.1	7.2
L205f	39.6	s	57	6.5	50.0	105.5	3.5	27	7	1772	8.6-3	0.85	6.8	6.5	7.2	6.0	6.3
L206f	147.0	s	33	6.0	50.0	108.0	3.5	15	15	1830	3.3-3	0.80	6.5	6.0	7.1	5.1	5.8
H207f	10.1	z	0		0.	0.					5.3-4	0.70	3.2				4.8
L208f	30.0	w	11	4.0	50.77	103.31	3.5	15	15	1960	2.0-2	0.70	4.6	5.2	5.0	6.3	6.7
L209f	13.0	z	0		0.	0.					7.4-5	0.70	3.2			4.9	3.7
M210f	88.4	s	131	6.2	51.3	108.1	3.5	23	15	1700	1.4-3	0.80	6.4	6.7	7.5	6.1	5.3
M211f	210.0	z	0		0.	0.					5.0-5	0.70	4.0				3.5
L212a	67.7	c	863	7.5	52.3	106.7	3.5	38	5	1769	5.6-2	0.70	7.8	7.5	7.0	7.7	7.3

4.0	200*	90			0														ss
4.5	2100*	800			0														ss
5.7	320*	130			0														mw
4.0	240*	95			0														sw
6.0	670+	260	5.5	5.5	0														sw
4.0	200*	90			0														s
3.5	80*	35			0														sw
3.5	80*	35			0														s
4.5	80*	30			16	365	0	0	0	4	4	2	2	1	3	0			sd
6.0	670-	170	5.0	5.0	23	365	0	0	2	4	3	3	2	0	3	0			md
3.5	80*	35			2	256	0	0	0	0	0	0	0	0	2	0			ss
5.0	330-	90	4.5	4.5	1	356	0	0	0	0	0	0	0	0	1				mw
4.0	130*	50			8	159	0	0	0	0	1	4	2	1	0				ss
3.5	80*	35			0														sw
5.5	2000*	800			1	157	0	0	0	0	0	0	0	1	0				ss
7.5	1350*	520	6.5	6.5	2	178	0	0	0	0	0	0	1	1					aw
3.5	80*	30			1	300	0	0	0	0	0	0	0	0	1	0			ss
6.0	420*	90			37	361	0	0	0	1	2	5	5	17	7	0			md
6.5	370*	140			46	388	0	0	1	4	5	12	7	14	3	0			md
6.0	260*	100			8	271	0	0	0	2	1	0	2	2	1	0			mw
6.5	1350+	520	6.5	6.5	13	367	0	0	0	0	5	2	2	1	3	0			mw
6.8	1100-	220			19	469	0	0	0	3	2	3	5	5	0	1	0	1	aw
6.5	1650*	660			1	367	0	0	0	0	0	0	0	0	1				ms
5.5	180+	70			0														s
8.0	400+	170	7.0	7.0	12	389	0	0	1	0	3	3	1	2	2	0			aw
5.5	65-	25			9	91	0	0	3	1	4	1	0						mw
8.0	1400+	560	6.5	6.5	30	394	0	1	3	3	8	4	8	2	0	1			ad
6.0	250+	95			15	334	0	0	0	1	1	2	7	3	1	0			ad
5.0	150*	55			1	42	0	0	0	0	1	0							ss
6.5	380*	140			10	98	0	0	1	1	6	2	0						mw
7.0	240+	85	6.5	6.0	15	394	0	0	1	1	5	4	2	1	0	1			aw
7.2	530+	200			15	312	0	0	0	2	3	1	4	4	1	0			aw
6.8	450+	170			17	241	0	0	0	0	2	3	7	4	1	0			mw
6.0	1200+	450			25	312	0	0	1	1	5	4	7	6	1	0			md
6.5	180+	80			34	659	0	0	0	2	7	4	7	6	3	4	1		md
6.0	230+	90			45	659	0	0	0	2	7	5	11	14	2	3	1		md
4.5	105*	40			0	???	0	0	0	0	0	0	0	0	0	0			s
5.0	190*	70			4	287	0	0	0	0	0	2	1	0	1	0			sw
8.0	380-	150	6.8	6.8	41	500	1	2	2	3	10	9	5	7	1	1	0		ad
6.0	210*	80			12	203	1	1	0	1	1	5	1	2	0				mw
6.8	320*	130			15	218	0	0	0	1	2	4	3	5	0				aw
6.8	210*	80			17	438	0	0	0	1	4	3	3	4	1	1			md
5.5	900+	350			1	149	0	0	0	0	0	0	1	0					ss
5.0	220*	90			4	179	0	0	0	0	1	1	1	1	0				ss
8.3	500-	140	7.0	7.0	36	179	0	1	8	6	7	10	3	1	0				ad
6.8	400*	150			1	102	0	0	0	0	0	0	1	0					mw
5.0	750*	280			8	102	0	0	0	2	5	0	1	0					sw
5.0	750*	280			3	42	1	0	0	1	1	0	0						ss
6.5	180*	70			10	126	0	0	0	4	2	2	2	0	0				mw
6.0	380*	150	6.0	6.0	4	157	0	0	0	0	0	2	1	1	0				aw
5.0	750*	280			0														m
6.0	240*	90			9	124	0	0	2	2	3	1	1	0					aw
8.0	850+	330			5	130	0	0	1	1	0	1	2	0					aw
6.5	75*	25			40	394	0	2	11	9	5	8	1	2	1	1	0		mw
5.0	2400*	950			3	47	0	0	1	1	1	0							sw
5.5	150+	55			11	71	1	1	1	1	5	2	0						mw
6.8	320*	120			3	50	0	0	0	1	2	0							mw
4.5	400*	160			6	67	0	0	0	2	3	1	0						sw
5.5	230*	90			4	67	0	0	0	3	0	1	0						mw
6.0	120*	45			19	92	0	1	3	8	4	3	0						mw
5.5	50*	20			14	765	0	1	3	5	2	1	0	0	1	0	1		sw
7.5	330+	130			21	67	3	0	6	6	4	2	0						aw
6.0	370*	140			11	80	1	1	2	1	3	3	0						ms
6.5	140+	55			3	45	0	0	0	1	2	0	0						aw
6.0	160+	60			15	73	0	1	3	7	3	1	0						mw
5.0	2500*	950			0														s
5.5	500*	220			4	102	0	0	0	0	1	2	1	0					ms
5.0	2500*	950			2	112	0	0	0	0	1	0	1	0					ss
6.0	120*	45			9	158	0	0	0	2	2	2	3	2	0				mw
4.0	105*	40			0														s
7.8	420+	160	6.5	6.5	49	372	0	2	3	3	12	11	5	6	2	0			ad

M213f	71.6	m	60	5.0	54.14	122.04	3.5	27	15	1960	5.1-3	0.75	6.0	5.2	5.8	6.2	6.0
L214f	104.2	w	17	4.0	54.11	117.41	3.5	15	15	1961	2.0-3	0.70	4.5	4.3	4.9	4.7	5.5
L215a	108.7	c	1018	7.6	56.2	116.4	3.3	37	8	1907	5.2-2	0.70	8.1	7.6	6.5	7.3	7.3
L216f	144.7	s	19	6.5	56.7	112.7	3.5	25	15	1827	2.8-3	0.85	7.0	6.5	7.1	7.1	5.7
N217f	8.9	c	50	7.0	42.4	25.1	3.9	60	5	1746	7.6-2	0.75	7.4	7.0	7.1	5.5	7.4
K218f	86.1	c	4	7.5	39.5	140.7	6.8	?	?	1891	?	?	8.0		7.8		
H219a	52.5	c	106	7.0	56.59	120.96	3.3	32	10	1780	2.3-2	0.75	7.4	7.4	6.7	7.9	6.8
H220a	68.5	m	48	5.6	54.3	126.5	3.3	20	10	1911	6.1-3	0.75	6.3	6.9	6.5	7.1	6.1
H221f	48.3	w	3	3.9	55.66	125.74	3.6	15	15	1982	3.8-3	0.70	5.1	5.3	4.3		5.9
H222f	217.0	s	87	6.0	57.0	133.0	3.3	30	11	1895	5.9-3	0.80	6.7	6.0	6.6	7.2	6.2
H223f	17.9	z	0		0.	0.					3.7-3	0.85	4.0			7.4	5.9
M224f	351.1	m	16	5.5	50.1	127.0	3.6	80	12	1919	7.6-4	0.80	6.3	6.2	7.0	6.2	5.0
M225f	37.0	m	14	5.5	48.9	122.12	4.0	30	15	1923	1.5-2	0.80	6.3	5.9	7.0	7.7	6.6
M226a	110.4	s	12	6.7	44.9	124.8	3.4	33	13	1119	8.2-4	0.75	6.7	6.7	7.7	8.0	5.0
M227f	101.0	z	0		0.	0.					1.0-4	0.70	4.0			5.1	3.8
M228a	225.0	c	34	7.2	40.66	122.63	3.3	33	6	1888	1.6-3	0.75	7.9	7.2	7.3	8.1	5.4
M229f	236.7	s	9	6.6	43.2	129.6	3.2	30	6	1902	2.0-4	0.85	7.3	6.6	7.2	7.1	4.2
M230a	133.2	m	6	5.2	44.9	130.4	3.4	33	10	1911	1.0-3	0.80	5.7	6.2	7.1	7.1	5.2
M231f	106.2	w	4	4.0	47.2	132.1	3.3	10	5	1883	4.7-4	0.70	4.1	4.8	7.3	5.0	4.7
M232a	105.0	s	15	6.0	52.5	139.8	3.3	30	4	1865	4.4-3	0.80	6.7	6.8	7.4	6.7	6.0
M233f	52.8	w	20	4.5	54.53	136.96	3.3	20	5	1963	4.7-3	0.70	5.3	6.1	5.7	5.4	6.0
M234f	43.1	w	7	4.4	53.08	134.58	3.3	15	5	1972	2.6-3	0.70	5.4	4.4	5.1	4.5	5.7
M235f	92.6	m	43	5.2	52.51	132.53	3.3	40	5	1942	6.6-3	0.75	5.9	6.8	6.7	6.1	6.2
H236f	59.0	m	17	5.0	59.5	144.0	3.5	33	10	1735	3.2-3	0.75	5.1	5.2	6.4	7.1	5.8
M237f	115.0	w	3	3.9	55.8	140.7	3.4	20	12	1968	2.3-4	0.75	4.7	4.7	5.3	3.5	4.4
H238f	34.2	w	5	4.4	60.4	149.5	3.6	10	5	1964	3.8-3	0.75	5.2	5.2	5.6	6.6	5.9
K239f	65.0	w	3	4.0	57.35	159.65	3.8	30	0	1962	8.5-3	0.80	4.4	5.2	5.7	5.7	6.3
H240f	95.1	m	19	5.3	56.56	155.15	3.5	33	0	1962	3.9-3	0.75	6.4	6.4	6.3		5.9
M241f	932.7	m	17	6.0	49.4	153.5	3.3	40	14	1969	2.7-4	0.75	5.9	6.2	5.7	4.8	4.4
D242a	95.0	s	268	7.6	0.	0.	3.3	30	0	1932	2.1-2	0.85	6.8	7.6	7.3	6.6	6.8
D243a	79.0	c	509	7.5	46.47	141.13	3.3	30	0	1906	3.5-5	0.85	8.0	8.0	7.6	7.5	7.1
M244f	81.3	m	30	5.0	49.4	140.4	3.3	30	8	1895	1.5-3	0.75	5.4	5.8	7.3	5.8	5.4
M245f	200.0	m	13	5.0	47.3	139.8	3.3	70	10	1927	5.5-4	0.75	5.7	5.7	6.9		4.8
K246a	66.6	g	26	7.9	42.79	139.20	3.3	40	5	1940	5.1-1	0.70	8.3	8.3	7.2		8.6
D247a	18.0	s	8	5.9	47.8	146.5	3.3	40	5	1957	2.0-2	0.75	7.3	5.9	6.4		6.8
M248a	37.3	m	20	5.5	53.1	121.4	3.5	15	15	1961	3.4-3	0.75	6.7	5.5	5.7		5.9
K249a	23.8	s	16	6.7	45.23	146.89	3.4	40	5	1952	3.2-2	0.75	7.7	6.7	6.9	7.2	7.0
M250f	220.0	m	12	7.0	41.5	140.5	3.4	20	0	1901	9.1-4	0.75	5.9	5.9	5.7	6.3	4.5
K251f	130.0	c	98	7.2	42.22	142.50	4.8	70	5	1892	7.7-2	0.85	7.8	7.5	7.7		7.5
K252a	175.0	g	722	8.1	55.2	164.5	3.5	100	1	1742	3.0-2	0.70	8.3	8.2	8.5	8.6	7.0
K253a	34.6	s	42	6.4	56.6	159.1	3.5	35	3	1740	9.3-3	0.75	6.7	6.7	6.6	5.0	6.3
H254f	83.1	m	1	5.0	59.0	157.5	5.0	?	?	1974	2.2-3	0.75	6.4	6.0	4.8		5.7
H255f	37.3	m	10	5.4	59.68	163.2	3.9	33	0	1967	1.4-2	0.75	6.7	6.4	5.3	7.0	6.5
K256a	45.5	c	120	7.7	57.8	163.6	3.5	51	0	1943	2.0-2	0.90	8.3	7.8	7.1	6.7	6.8
K257f	21.1	m	77	5.5	56.66	161.33	3.5	15	0	1962	6.8-2	0.80	6.7	6.1	6.4	5.8	7.4
K258f	40.4	c	60	6.0	55.3	160.1	3.5	15	0	1962	1.1-2	0.80	7.3	6.0	6.4	6.7	6.4
K259f	55.0	s	182	6.6	53.5	159.0	3.5	70	3	1843	3.3-2	0.85	7.1	7.1	7.9		7.1
K260f	250.0	g	470	8.3	41.80	144.13	6.0	70	5	1737	4.6-0	0.90	8.4	8.3	8.2		8.7
K261f	180.0	g	161	8.5	52.3	161.0	6.0	70	5	1737	1.5-0	0.90	8.6	8.5	8.2		8.6
K262f	260.0	g	30	7.7	45.5	153.9	6.0	70	5	1910	9.7-2	0.90	8.2	7.7	7.6		7.6
N263a	7.3	s	19	6.5	42.7	22.7	3.5	35	5	1641	4.0-2	0.75	6.7	6.6	7.1		7.1
N264a	3.8	g	120	7.8	41.8	23.1	3.7	80	0	1750	1.5-2	0.70	7.9	7.8	7.0	6.6	6.6
N265f	6.1	w	3	4.6	40.5	22.5	3.9	19	10	1932	1.2-2	0.75	5.4	5.4	5.6		6.4
N266f	9.4	c	70	6.9	40.4	23.7	3.5	28	0	667	2.9-2	0.85	6.9	6.9	7.2	6.4	6.9
N267f	15.1	c	19	5.4	41.4	24.0	4.1	70	6	1904	4.7-2	0.75	6.1	5.6	6.3		7.2
N268a	9.2	c	9	7.3	41.1	24.3	4.1	21	5	52	4.6-3	0.70	7.3	7.3	7.2	7.4	6.0
F269f	100.0	c	54	6.5	41.8	32.4	3.8	100	8	1892	5.4-3	0.85	7.2	7.0	6.4	6.0	6.1
F270a	160.0	g	512	8.0	41.0	36.0	3.5	139	0	-479	3.1-2	0.70	8.0	8.1	8.0	6.9	7.0
A271f	14.8	w	4	4.4	43.52	31.69	3.5	46	0	1975	1.7-3	0.80	4.6	4.6	4.3		5.4
F272f	26.6	t	2	3.7	42.2	35.0	3.5	25	20	1966	1.3-3	0.70	4.6	4.6	5.2		5.2
F273f	71.9	s	62	6.0	39.9	30.5	3.6	70	0	1598	2.0-2	0.80	6.1	6.6	7.6		6.8
F274f	13.2	c	109	7.2	39.21	29.51	3.5	55	0	1875	1.1-1	0.85	7.8	7.2	7.3	6.5	7.6
F275f	5.2	s	16	6.0	38.9	29.3	3.7	88	13	1886	4.0-2	0.80	6.7	6.0	7.3		7.1
F276f	20.0	c	121	7.3	38.1	30.2	3.6	70	0	60	6.5-2	0.95	7.3	7.3	7.9	6.7	7.3
F277f	51.0	c	77	6.8	35.8	29.5	3.5	66	0	1918	4.7-2	0.85	7.5	7.0	6.9		7.1
F278f	30.1	s	335	6.6	39.4	33.8	3.5	78	0	1900	3.2-2	0.75	7.3	6.8	7.2	7.4	7.0
F279f	215.9	s	75	5.8	36.9	33.5	3.5	70	0	1714	1.6-3	0.80	6.1	6.0	7.5	7.6	5.4
F280f	14.0	c	11	7.5	35.8	35.1	3.7	71	10	115	4.0-2	0.70	7.5	7.5	7.9		7.1
F281a	19.7	g	59	8.0	35.9	36.0	3.7	100	10	-1356	8.4-2	0.70	8.0	8.0	8.1	6.9	7.6
F282a	381.0	g	109	8.0	37.5	37.8	3.7	70	0	242	3.8-2	0.70	8.0	8.0	7.9	7.7	7.2
F283f	88 0	m	13	5.4	37.62	39.47	3.7	33	0	1915	1.5-3	0.75	6.1	5.8	7.0	5.5	5.4

6.0	2900-	420			2	94	0	0	0	0	0	2	0						ms
5.0	180-	40			7	229	0	0	0	0	1	4	0	2	0				sw
7.8	680+	240	6.5	6.5	91	234	2	7	12	18	12	23	9	8	0				ad
6.5	440+	170			18	407	0	0	1	1	3	3	3	2	4	1	0		mw
7.0	280+	110			5	11	3	2	0										as
7.8	?	?	?	?	?0														a
7.5	530*	200	6.5	6.5	23	437	0	0	1	1	3	7	4	5	1	1	0		ad
6.5	620*	240	6.0	5.5	9	437	0	0	0	0	0	2	3	2	1	1	0		mw
5.0	60*	25			0														s
6.0	130+	50			19	666	0	0	0	0	0	1	4	7	5	1	1		md
5.5	2500*	950			6	272	0	0	0	0	0	1	2	2	1	0			aw
6.0	230-	65			3	785	0	0	0	0	0	0	2	0	0	0	1		sw
6.0	250-	60			2	785	0	0	0	0	0	0	1	0	0	0	1		ms
7.0	1600-	70	6.0	6.0	9	390	0	0	0	0	0	1	6	0	1	1	0		aw
5.0	2500*	950			5	299	0	0	0	0	0	3	0	1	1	0			sw
7.0	200+	80	6.0	6.0	57	526	0	0	2	9	10	17	9	7	1	2	0		ad
6.5	420+	160			2	237	0	0	0	0	1	0	0	1	0				ms
6.0	210*	80	5.5	6.0	18	421	0	0	1	1	3	4	2	2	4	1	0		mw
5.0	130*	50			8	272	0	0	0	1	2	0	2	0	3	0			sw
6.8	600*	230	5.5	6.0	21	400	0	1	2	1	7	4	2	3	0	1			md
6.0	150*	60			20	88	2	1	2	7	5	3	0	0					mw
5.0	100+	40			2	80	0	0	0	0	1	1	0						ss
6.5	130*	50			7	157	0	0	0	0	3	0	3	1	0				mw
5.5	650-	120			5	409	0	0	0	0	1	1	0	0	2	1			mw
4.5	80*	35			1	41	0	0	0	0	1	0	0	0	?	?	?		ss
5.5	290*	110			8	223	0	0	0	0	0	6	1	1	0				mw
5.5	190*	70			5	112	0	0	0	2	0	2	1	0	0				mw
6.3	240*	90			0														m
5.5	100*	40			18	233	0	0	0	0	4	6	7	1	0				sw
7.3	1700+	650	6.5	6.5	49	129	6	2	10	12	9	6	4	0					ad
7.8	160*	60	6.5	6.5	45	217	5	4	9	8	9	7	2	1	0				aw
5.5	130*	60			1	59	0	0	0	0	1	0	0						ms
5.5	170*	70			0														m
8.0	80*	30	6.5	6.8	0														m
6.3	160+	65	5.8	5.8	0														a
6.0	160-	65	5.5	6.0	0														m
7.0	180+	70	6.8	6.0	6	138	0	1	1	2	0	0	2	0					aw
6.0	250*	90			3	108	0	0	0	1	0	1	1	0					ms
7.5	250-	15			54	550	0	0	7	5	8	18	12	2	0	2			ad
8.2	?	?			1	1262	0	0	0	0	0	0	0	0	0	0	0	1	as
6.5	300*	110	6.0	6.0	23	122	1	0	3	6	5	5	3	0					md
6.0	210*	80			0														s
6.5	420*	150			3	219	0	0	0	0	0	0	1	2	0				ms
7.8	330-	70	6.5	6.5	3	44	0	0	0	2	1	0							as
6.0	370-	95			6	122	0	0	1	1	0	2	2	0					mw
6.5	180+	70			72	144	6	5	13	24	12	6	6	0					ad
7.0	600-	200			19	144	11	3	4	2	5	1	3	0					aw
8.5	450-	25			7	537	0	0	0	1	3	0	2	0	0	1			aw
8.5	60-	25			4	24	1	1	1	1	0								aw
7.8	140+	60			2	470	0	0	0	0	0	0	0	1	0	0	1		as
6.7	1800-	420			0														
7.5	5000-	500	6.5	6.5	1	35	0	0	0	1	0	0							as
5.0	60*	25			0														as
7.0	1700*	660			10	64	2	1	3	2	1	1	0						aw
6.0	2200-	310			0														
7.5	5600+	2200	6.5	6.5	1	100	0	1	3	0	0	1	0						as
6.8	1000-	370			1	70	0	0	0	0	0	1	0						ms
8.2	1200-	360	7.5	7.5	104	186	7	12	17	29	18	15	5	1	0				aw
5.0	310*	120			0														
4.0	25*	10			0														
6.0	130*	50			0														
7.5	5400+	1700			1	30	0	0	0	1	0								as
6.0	200+	80			0														
7.5	1600+	600			2	43	0	0	0	1	1	0							as
7.0	1800-	300			0														
7.0	1100-	140			1	114	0	0	0	0	0	0	1						as
6.0	450-	30			8	154	2	1	0	2	1	0	1	1	0				as
7.8	1100-	360			0														
8.0	2000-	500	7.5	7.5	25	178	1	2	5	6	2	6	1	2	0				ad
7.8	670+	300	7.0	7.0	21	350	3	2	3	2	4	4	1	1	1				ad
6.0	380-	120			8	91	0	1	0	2	3	2	0						mw

F284f	36.5	s	11	6.7	36.5	41.9	4.1	60	10	800	3.6-3	0.75	6.7	6.8	7.8	7.2	5.9
F285f	183.2	c	10	6.0	36.1	43.0	3.9	50	10	161	3.8-4	0.80	6.0	6.0	7.9	6.2	4.6
F286f	138.0	g	198	7.8	33.0	47.0	3.5	70	0	-600	1.1-2	0.70	7.8	7.8	8.0	7.7	6.4
F287f	49.6	m	54	5.6	36.0	45.0	3.5	69	0	1909	1.9-2	0.80	6.3	6.8	7.0	6.4	6.7
F288a	76.7	c	71	7.4	33.4	49.1	3.6	70	0	1008	1.3-2	0.70	7.5	7.6	7.8	7.9	6.5
F289f	154.1	s	27	6.0	33.5	49.4	3.7	79	0	987	1.1-3	0.80	6.9	6.3	7.8	4.8	5.2
A290a	18.1	c	112	6.9	40.0	41.9	3.5	70	0	1043	5.7-2	0.75	7.0	6.9	6.9	7.1	7.3
A291f	2.7	m	7	4.8	40.6	43.1	3.6	66	0	1151	3.7-2	0.75	4.8	5.0	6.8	4.5	7.1
A292f	3.2	s	20	6.0	40.0	42.5	3.5	33	0	1868	1.9-1	0.75	6.6	6.2	6.2	6.2	8.0
A293f	2.5	m	6	5.6	39.6	42.2	3.9	60	10	1940	4.0-2	0.80	6.5	6.5	6.5		7.2
A294a	9.0	s	29	6.3	40.5	43.5	3.5	33	0	1003	2.2-2	0.75	6.3	6.3	6.9	6.0	6.8
A295f	7.7	s	45	5.8	39.0	43.3	3.5	33	0	1913	3.2-2	0.80	6.6	5.8	5.9	4.0	7.0
A296f	20.0	c	141	7.5	39.1	44.0	3.5	63	0	-550	9.0-3	0.90	7.5	7.5	7.5	6.1	6.3
A297f	3.2	m	7	5.0	40.3	44.1	3.6	25	0	972	2.7-2	0.75	5.0	5.0	6.9	6.3	6.9
A298a	11.2	s	34	6.4	40.0	44.6	3.1	65	0	851	6.2-2	0.75	6.4	6.4	7.0	6.2	7.4
A299f	9.0	m	33	5.0	39.7	45.5	3.5	46	0	741	2.8-2	0.75	5.0	6.1	7.0	6.2	6.9
A300a	17.1	c	115	7.0	40.9	44.2	3.1	90	0	735	1.2-2	0.75	6.9	6.9	7.0	7.1	6.3
A301f	15.2	m	10	5.5	39.3	46.6	3.8	30	3	1884	6.8-3	0.80	6.1	5.9	6.1	6.1	6.2
A302f	8.1	c	22	7.3	40.3	46.2	3.7	42	0	427	1.9-2	0.90	7.3	7.3	7.2	7.1	6.8
A303f	21.9	m	65	5.6	41.5	44.6	3.0	40	0	1318	2.3-2	0.80	5.6	5.7	6.7	6.8	6.9
A304f	11.0	c	56	6.8	41.7	43.6	3.5	33	0	1088	9.6-2	0.85	6.9	6.8	6.9	6.8	7.6
A305f	20.0	m	29	5.3	42.5	42.4	3.3	28	0	1615	1.4-2	0.80	5.4	6.1	6.5	6.8	6.5
A306f	14.8	m	10	5.7	44.4	38.0	3.7	20	0	1978	7.3-3	0.80	5.7	5.7	7.4	5.8	6.2
A307f	3.1	s	76	6.3	41.4	43.8	3.5	30	0	1868	1.8-1	0.85	6.9	6.3	6.2	6.9	8.0
A308f	6.4	m	20	4.8	42.8	45.0	3.5	24	0	1874	5.8-2	0.75	5.1	4.8	6.2	5.7	7.2
A309a	13.4	s	157	6.2	43.17	45.6	3.4	125	0	1688	3.0-2	0.80	6.4	6.5	6.5	6.5	7.0
A310f	7.1	m	10	5.3	42.5	46.7	3.5	50	0	1764	8.0-3	0.75	5.5	5.5	6.4	5.1	6.2
A311a	13.6	s	176	6.6	43.0	47.09	3.1	62	0	650	1.5-2	0.75	6.6	6.8	7.1	7.2	6.6
A312f	26.2	s	27	6.6	44.0	47.0	3.6	100	0	1668	7.2-3	0.75	6.8	6.8	6.5		6.2
A313f	20.0	s	66	5.9	41.5	48.4	3.5	75	0	743	2.6-2	0.80	5.9	6.1	7.1	7.2	6.9
A314f	16.8	s	18	5.8	38.5	48.0	3.5	41	0	1863	6.8-3	0.80	6.3	5.8	6.2	6.0	6.2
A315f	24.5	s	32	6.2	38.06	49.2	3.5	67	0	1858	9.0-3	0.80	6.8	6.6	6.2	6.0	6.3
A316a	16.6	s	47	6.7	37.8	48.4	3.5	75	0	1863	3.8-2	0.75	7.3	7.6	6.2	6.7	7.1
A317f	114.7	m	29	5.1	37.0	53.0	3.5	52	0	1924	1.2-3	0.75	5.7	6.0	5.7		5.2
A318f	52.0	m	69	4.8	39.44	53.41	3.5	52	5	1842	1.4-2	0.75	5.0	4.9	6.3	5.1	6.6
A319a	23.7	s	108	6.4	41.0	50.5	3.5	92	0	1872	2.1-2	0.75	7.0	6.5	6.2	7.2	6.8
A320f	17.0	w	6	4.3	42.41	49.21	3.5	45	0	1969	4.9-3	0.75	5.3	4.5	4.5		6.0
A321a	17.2	s	31	6.2	41.7	51.1	3.5	110	0	1931	2.3-2	0.75	7.2	6.5	5.6		6.5
G322f	52.9	s	36	5.8	38.4	58.6	3.5	60	5	1913	1.4-3	0.80	6.6	6.5	6.6		5.4
G323a	67.1	g	317	7.9	39.6	53.7	3.5	55	1	-2000	4.5-2	0.70	7.9	7.9	7.6	7.1	7.3
F324f	13.9	m	41	5.2	37.6	54.3	3.5	42	3	1935	4.3-2	0.75	5.9	5.6	6.6	4.4	7.2
F325a	15.6	s	16	5.4	37.17	50.46	3.6	52	0	1678	3.1-2	0.75	6.5	6.5	7.6	7.7	7.1
F326a	44.8	g	56	8.0	36.0	51.0	3.5	53	0	-350	1.2-2	0.70	8.0	8.1	8.0	6.8	6.4
F327a	53.2	g	523	8.1	36.1	54.2	3.5	53	0	856	1.1-1	0.70	8.2	8.1	7.8	6.9	7.7
F328f	45.6	c	84	5.6	36.2	58.0	3.5	51	0	1868	2.1-2	0.80	6.1	7.0	7.3	7.1	6.9
F329f	10.6	m	16	4.9	37.3	54.6	3.5	22	0	1960	1.7-2	0.75	5.9	5.5	5.6		6.7
F330f	24.8	m	11	5.0	35.7	57.6	3.5	50	0	1960	8.1-3	0.75	6.0	5.5	5.6	7.3	6.2
G331f	2.9	m	6	5.3	37.0	59.0	3.9	42	0	1931	5.2-2	0.75	6.1	5.6	6.7		7.2
G332f	5.0	s	19	6.5	36.3	59.2	3.5	46	0	1673	4.0-2	0.85	6.8	6.5	7.6	7.2	7.1
G333a	10.7	s	30	6.0	37.4	58.8	3.5	28	0	1912	4.0-2	0.75	6.8	6.4	7.0	4.8	7.1
F334a	32.2	c	59	7.6	34.7	59.7	3.5	50	0	1336	9.8-3	0.75	7.7	7.6	7.7	7.4	6.3
F335f	13.8	s	6	4.6	0.	58.7	3.5	33	0	1678	4.8-3	0.75	5.4	5.8	7.6	7.1	6.0
F336f	23.0	z	1	3.5	33.65	54.82	3.5	33	33	1978	2.0-3	0.70	4.5	4.5	4.5	5.7	5.5
F337a	16.0	c	61	7.4	33.37	57.44	3.5	125	0	1933	5.2-2	0.70	8.3	7.5	6.7	7.3	7.3
F338a	13.6	c	68	7.4	34.15	59.01	3.5	71	0	1066	1.4-1	0.70	7.5	7.5	7.8	7.2	7.9
F339f	69.8	w	9	4.0	31.0	58.0	3.5	73	30	1960	7.2-4	0.70	4.6	4.0	5.6	4.0	5.0
F340a	33.4	s	61	6.2	30.56	57.56	3.5	116	0	1864	2.6-2	0.75	6.8	7.5	7.3	4.9	7.0
F341f	112.4	m	17	4.9	35.1	51.6	3.5	58	0	1961	1.4-3	0.75	5.9	4.9	5.6	5.3	5.3
F342f	15.3	c	11	7.6	33.3	59.3	4.1	31	0	764	5.9-3	0.90	7.7	7.7	7.8	6.8	6.1
F343a	23.0	w	3	4.4	31.64	60.25	3.5	46	15	1973	5.6-3	0.80	5.4	5.4	4.8	6.4	6.0
F344f	28.7	w	4	3.9	32.78	56.42	3.5	47	9	1969	1.4-3	0.70	4.7	4.7	5.1	3.8	5.3
B345f	41.8	m	8	5.2	38.0	62.0	3.6	31	0	1907	2.8-3	0.75	5.7	5.5	6.7		5.7
B346f	31.6	c	281	7.3	40.28	63.38	3.5	160	0	914	1.0-1	0.90	7.4	7.5	7.6	7.8	7.6
B347f	54.0	m	16	5.2	41.5	63.5	3.6	30	0	1929	7.4-3	0.75	5.9	5.5	6.3	6.4	6.3
B348a	30.7	s	18	6.4	43.2	67.1	3.5	51	0	1929	4.9-3	0.75	7.3	6.4	6.3	6.9	6.0
B349a	21.0	s	9	6.1	40.7	66.5	3.6	28	10	1892	7.4-3	0.75	6.8	6.1	6.9	6.7	6.3
B350f	24.9	w	4	4.6	39.6	67.1	3.6	10	5	1928	2.7-3	0.75	5.0	5.0	6.3	5.4	5.7
B351f	113.2	w	5	4.5	36.4	65.0	3.5	33	0	1963	1.5-3	0.75	5.3	5.9	4.9		5.3
G352a	103.1	c	20	7.2	35.0	67.5	3.6	33	0	1102	2.9-3	0.70	7.3	7.3	7.8	7.6	5.7
G353f	17.5	z	0		0.	0.					3.0-4	0.70	4.0				4.5
G354f	54.5	s	11	6.5	35.9	63.8	3.6	46	0	1428	3.2-3	0.75	6.6	6.6	7.7	6.6	5.8

7.0	2400-	480			20	147	2	1	5	3	4	2	3	0					aw
6.0	610*	230			28	269	1	3	3	1	3	7	7	2	1				md
8.0	6000-	1500			76	350	14	4	11	9	12	16	5	3	2				ad
6.5	170*	65			17	205	0	4	5	4	0	1	1	2					mw
7.8	1100*	450	7.0	7.0	64	455	4	8	11	10	7	15	3	5	0	1			ad
6.0	250*	95			4	95	0	0	0	1	2	1	0						ss
7.2	2200-	430	6.8	6.5	24	199	1	1	3	9	8	1	0	1	0				ad
5.0	190-	50			3	41	0	1	0	1	1	0	0						mw
6.0	530-	80			6	52	0	1	1	2	2	0							aw
5.5	120*	50			0														m
6.5	3000-	600	6.5	6.5	21	72	2	2	5	8	3	1							ad
6.0	300+	120			6	34	2	0	2	2	0								mw
7.5	1300+	500			30	96		4	1	12	4	5	0						ad
5.0	1000-	30			3	96	0	0	0	1	0	2	0						ms
6.5	600-	180	6.5	6.5	25	100		5	2	5	5	4	1						a?
6.0	250*	95			5	94		1	0	2	0	1	0						ms
7.2	9000-	1500	6.5	6.5	43	199			?										ad
5.7	270*	100			5	84	0	0	0	2	1	2	0						ms
7.0	1300+	500			2	64	0	0	0	1	0	1	0	0	0	0			as
6.0	1800-	180			18	291	0	0	3	3	3	6	1	1	1				mw
6.8	2000-	500			14	291	1	1	2	2	4	0	1	1	2				mw
5.5	100*	40			8	291	0	0	0	1	2	4	0	0	1				mw
5.7	2500-	300			2	96	0	0	0	0	1	1	0	0	0				ms
6.3	2500-	500			2	51	0	0	1	0	1	0							as
5.0	1100-	110			5	289	0	0	0	1	2	1	0	0	1				mw
6.5	600-	150	6.0	6.0	9	72	0	0	0	3	5	1	0	0	0				aw
5.5	350*	130			10	69	0	3	0	4	2	1	0	0					mw
6.7	500*	190	6.0	6.0	10	165	0	0	0	2	2	4	1	1					aw
6.5	380*	150			0														a
6.0	670-	130			6	82	1	0	0	0	1	4	0	0					as
5.7	310+	120			4	79	0	0	0	0	3	1	0	0					ms
6.0	140*	55			3	90	0	0	0	0	2	1	0						mw
7.5	320*	120	6.5	6.5	11	144	0	0	0	2	3	2	4	0	0				ad
5.0	40*	15			0		0	0	0										m
5.5	2100-	50			43	72	39	3	0	0	0	1	0	0	0				mw
6.5	350*	130	6.0	6.0	17	82	11	3	0	0	1	2	0	0					as
4.5	150*	60			0														m
6.5	320-	65			0														s
6.0	140*	55			1	4	1	0											ss
7.8	1100-	170	7.0	7.0	100	126	73	3	5	6	7	4	2	0					aw
5.5	210-	40			42	15	41	0	1	0									aw
7.0	950*	350	7.0	6.0	4	174	0	0	0	2	0	1	0	1	0				as
8.0	1000-	290	7.0	7.0	28	158	1	1	5	6	6	5	3	1	0				ad
8.0	1900-	420	7.0	7.0	17	174	0	1	2	2	2	5	3	2	0				ad
6.5	130*	50			9	122	0	0	2	1	2	2	2	0					aw
5.0	80*	30			0														
5.5	240*	90			2	95	0	0	0	0	0	2	0						as
5.5	450-	85			0														a
6.5	550+	210			2	72	0	0	0	1	0	1	0						as
6.5	530*	200	6.0	6.0	44	19	44	0	1	0	0								aw
7.8	1800+	720	7.0	7.0	14	268	0	0	1	2	6	3	0	1	1	0			ad
5.5	290*	110			2	69	0	0	0	1	0	1	0						as
4.5	70*	25			4	204	0	0	0	0	2	1	0	1	0				ss
7.5	3200*	1200	6.5	6.5	11	162	0	0	0	3	1	4	2	1	0				aw
7.5	720*	270	7.5	6.5	16	144	1	4	1	3	4	1	2	0					aw
4.5	55+	20			2	59	0	0	0	1	1	0							ss
7.0	160*	65	6.0	6.0	22	204	0	2	0	3	4	7	5	1	0				sd
5.0	40+	15			15	319	0	0	0	2	1	3	3	3	3	0			sw
7.8	1800*	720			14	89	0	0	5	1	4	4	0	0					aw
5.5	170*	65	5.0	5.0	7	211	0	0	0	0	1	2	0	4	0				mw
5.0	170*	65			7	162	0	0	0	0	1	1	4	1					sw
5.5	200-	50			0														s
7.5	450*	170			9	325	0	0	0	2	1	0	1	2	3	0			aw
6.0	1000-	240			23	325	1	0	1	5	4	5	4	0	3	0			md
6.5	240+	95	6.0	6.0	9	325	0	0	1	0	1	3	2	0	2	0			mw
6.0	230+	90	5.5	5.5	7	152	1	0	1	2	1	0	1	1	0				ms
5.0	140*	55			1	166	0	0	0	0	0	0	0	1	0				ss
6.0	290*	110			0														s
7.5	1350*	530	6.5	6.5	76	316	2	3	3	21	19	15	5	5	3	0			ad
5.0	700*	270			0														ss
6.5	460-	140			16	246	0	0	2	0	4	5	2	2	1	0			mw

F355f	243.7	w	1	4.6	31.86	65.77	4.6	33	33	1976	6.3-4	0.75	5.8	5.8	4.7	5.1	4.9
F356a	72.8	s	254	6.7	30.25	66.31	3.5	70	0	1897	3.6-2	0.75	7.4	7.7	7.2	8.2	7.1
F357f	75.0	c	19	4.8	35.0	72.5	3.5	110	0	1928	6.0-3	0.70	5.5	5.8	6.8	7.4	6.1
F358f	88.5	c	77	6.8	30.08	68.62	3.3	68	0	1931	1.6-2	0.90	7.6	7.6	6.7	8.5	6.6
F359f	94.4	w	5	4.1	32.8	73.97	3.7	116	18	1970	1.9-3	0.75	4.9	5.5	5.0	4.4	5.5
F360f	28.7	s	15	6.6	31.0	71.5	3.5	93	0	1955	6.0-3	0.85	7.7	6.6	5.9	7.2	6.1
F361f	111.0	g	493	8.1	33.0	76.0	3.5	70	0	1905	4.4-2	0.90	8.4	8.1	7.1	8.1	7.2
F362f	64.0	w	10	4.6	33.45	76.17	3.5	48	28	1974	3.3-3	0.75	5.6	6.0	4.8		5.8
F363f	22.7	s	29	6.4	34.0	69.5	3.5	68	0	1956	1.4-3	0.85	7.5	6.5	5.8	7.4	5.4
F364f	26.5	m	12	5.0	36.0	72.0	3.5	70	0	1973	3.0-2	0.75	6.2	6.2	4.5	6.7	7.0
B365f	36.4	s	178	5.8	37.2	71.7	3.5	70	0	1903	1.0-2	0.80	6.6	6.3	6.9	7.7	6.4
B366f	44.4	c	123	7.5	36.8	66.2	2.9	70	0	818	7.3-2	0.90	7.5	7.5	7.7	7.5	7.5
B367f	29.2	m	25	5.2	37.0	68.0	3.6	132	0	1896	9.4-3	0.75	5.6	5.2	6.9	5.7	6.3
B368f	72.9	c	1723	7.4	39.2	70.8	2.5	84	0	1815	2.6-1	0.90	7.7	7.4	7.3	6.9	8.2
B369f	23.1	s	64	5.9	38.5	72.0	3.5	39	0	1923	4.0-2	0.80	6.8	6.3	6.5	6.6	7.1
F370f	39.1	m	13	5.4	35.9	74.1	3.5	36	0	1964	6.0-3	0.80	6.6	5.7	5.5		6.1
B371f	30.1	s	129	6.0	39.7	73.1	3.5	52	0	1895	3.5-2	0.80	6.7	6.0	6.9	6.8	7.1
B372o	45.6	s	230	6.7	39.9	68.0	3.5	45	0	838	4.6-2	0.85	6.7	7.7	7.7	7.8	7.2
B373f	3.8	z	0		0.	0.					1.4-3	0.70	3.2				5.3
B374f	46.2	w	3	4.1	40.4	67.9	3.8	10	5	1959	1.9-3	0.70	4.7	5.3	5.0	6.0	5.5
B375f	12.5	m	5	5.4	40.6	69.5	4.1	25	5	1912	1.0-2	0.80	6.1	5.4	6.7	7.0	6.4
B376f	30.0	s	73	6.7	41.4	69.5	3.5	35	1	1868	2.2-2	0.85	7.3	6.7	7.1	7.8	6.8
B377f	21.4	m	17	5.0	41.9	69.1	3.0	25	0	1917	7.3-3	0.75	5.5	5.0	6.6	7.0	6.2
B378a	25.8	c	228	7.5	41.9	72.0	3.5	62	0	1908	1.0-1	0.70	8.0	7.6	6.7	7.8	7.7
B379a	25.9	g	661	7.8	39.8	76.2	3.5	160	0	1896	2.8-1	0.70	8.1	7.9	6.9	7.7	8.2
B380f	23.6	s	245	6.7	40.0	76.0	3.5	57	0	1600	1.2-1	0.85	6.9	6.8	7.4	6.8	7.7
B381f	15.3	s	36	5.8	41.0	77.5	3.5	42	0	1923	1.9-2	0.80	6.7	5.8	6.5	6.8	6.8
B382f	32.8	m	101	5.6	41.91	77.5	3.5	48	0	1885	2.2-2	0.80	6.2	6.1	7.0	6.8	6.8
B383f	30.5	m	45	5.2	42.0	76.0	3.5	25	0	1928	2.3-2	0.75	5.8	6.6	6.3	6.7	6.8
B384a	48.1	g	133	8.3	43.2	78.7	3.5	40	0	-250	1.9-2	0.70	8.3	8.3	8.5	7.1	6.8
B385f	19.2	c	259	6.8	42.48	78.89	3.5	49	0	1884	1.5-1	0.85	7.4	7.0	7.0	7.8	7.9
B386f	17.4	s	83	6.3	39.5	79.0	3.5	49	0	1853	2.2-2	0.80	6.9	6.5	7.2	6.6	6.8
F387a	12.8	c	259	7.1	37.0	76.0	3.5	70	0	1889	1.8-2	0.75	7.7	7.1	6.9	7.9	6.7
M388a	34.0	c	189	7.6	39.7	96.7	3.5	65	0	180	1.4-2	0.70	7.6	7.6	7.8	8.4	6.6
M389f	19.2	w	2	4.5	40.2	91.1	3.9	33	15	1968	5.4-4	0.70	5.5	5.3	6.0	5.8	4.8
B390f	13.8	m	45	5.5	42.0	80.5	3.5	42	0	1939	5.0-2	0.80	6.5	5.7	6.0	7.2	7.3
B391f	28.6	c	145	7.3	41.0	83.5	3.5	45	0	1893	4.8-2	0.90	7.8	7.3	6.9	8.2	7.3
B392a	27.6	c	58	7.5	43.2	81.0	3.5	50	0	1716	1.6-2	0.90	7.8	7.5	7.4	7.8	6.6
B393f	70.2	w	1	3.9	43.63	81.55	3.9	?	?	1975	7.0-3	0.70	4.9	4.5	4.5	3.0	6.2
M394f	82.4	m	37	5.2	41.81	88.53	3.5	65	4	1922	2.8-3	0.80	6.3	5.5	7.0	6.3	5.7
M395a	26.1	s	50	6.3	42.0	83.6	3.5	49	0	1947	8.3-2	0.75	7.6	6.6	6.5	7.6	7.5
M396a	59.1	s	20	6.2	41.55	88.72	3.7	33	0	1917	2.8-3	0.75	7.0	7.4	7.1	7.6	5.7
M397a	11.5	c	103	7.5	43.5	91.5	3.5	63	9	1842	2.8-2	0.70	7.9	7.5	7.4	8.1	7.0
B398a	11.3	s	143	6.3	41.15	72.42	3.5	33	0	1494	1.2-1	0.85	6.4	6.6	6.7	5.6	7.7
M399f	39.9	z	0		0.	0.					2.0-3	0.70	4.0				5.5
A400a	12.3	s	35	6.0	39.7	47.9	3.5	70	0	1860	3.8-2	0.75	6.6	6.6	6.3	6.1	7.2
M401f	12.5	m	6	5.2	40.5	96.0	4.0	15	15	1933	2.0-3	0.80	5.9	5.9	6.8	5.6	5.5
M402f	39.2	m	8	5.0	39.9	102.8	4.0	15	15	1959	7.6-3	0.75	6.0	6.4	5.8	7.1	6.3
M403f	47.1	w	1	4.5	42.0	99.0	4.5	15	15	1960	1.7-4	0.75	5.3	5.3	5.8	5.6	4.2
B404f	61.3	w	7	4.4	43.56	72.11	3.6	33	10	1960	2.6-3	0.75	5.2	5.6	5.0	5.7	5.6
M405f	23.3	s	2	6.2	39.9	106.4	5.0	15	15	1959	7.1-3	0.80	7.4	7.0	5.8	6.7	6.2
M406f	74.5	c	14	7.0	39.4	114.2	5.5	20	15	-231	2.2-3	0.85	7.0	7.2	7.9	7.8	5.6
M407f	20.3	w	1	4.1	38.28	93.44	4.1	114	114	1973	2.5-3	0.75	4.9	4.9	5.0		5.6
M408f	15.2	z	0		0.	0.					5.3-4	0.70	4.0				4.8
M409a	26.1	c	48	7.5	43.4	104.4	3.5	33	15	1870	9.6-3	0.70	8.1	7.5	7.4	6.6	6.4
M410f	69.9	z	0		0.	0.					1.1-4	0.70	4.0			5.7	3.9
M411a	54.4	c	2	7.0	41.4	133.4	7.0	33	30	1911	?	0.85	7.7	8.0	7.2		
M412f	18.7	z	0		0.	0.					4.3-5	0.70	4.0				3.4
L413f	21.7	s	24	6.1	53.9	87.0	3.5	30	8	1822	7.3-4	0.80	6.6	6.1	7.1	7.2	5.0
?551?	130.0	?	173	8.5	39.25	144.5	6.0	?	?	1896	7.7-0	?	8.6	8.7	7.8		8.8
K561?	80.0	c	214	7.0	53.0	164.0	3.5	50	3	1905	3.2-2	0.85	7.8	7.0	7.6		7.1
H638f	65.0	z	0		0.	0.					7.4-5	0.70	3.2				3.7
H658f	37.0	s	1	5.8	50.0	76.0	6.0	24	24	1925	1.4-4	0.80	6.8	5.8	6.5		4.0
L660a	45.0	c	7	6.4	48.3	83.4	3.5	40	15	1857	2.1-2	0.75	7.5	7.3	7.0	7.8	6.8
H661f	115.0	w	6	4.5	58.2	133.7	3.5	20	15	1967	1.4-3	0.75	5.4	5.7	5.3	5.3	5.3
B662f	33.0	c	89	7.5	43.7	83.0	3.5	47	0	1786	3.1-2	0.90	7.8	7.5	7.3	7.5	7.0
F669f	85.0	m	26	5.0	41.2	28.6	3.5	70	0	1901	5.4-3	0.75	5.4	5.4	7.1		6.1
E679f	100.0	w	3	4.3	76.34	146.53	3.8	33	10	1986	7.7-4	0.70	5.2	5.2	5.2	5.1	5.0
A685f	13.0	m	9	5.5	44.5	33.0	4.1	33	3	1793	3.8-3	0.80	5.7	6.0	6.4		5.9
C689f	6.6	t	1	3.5	52.8	27.7	3.5	10	10	1978	2.9-4	0.85	4.1	4.2	4.3	5.6	4.4
C693f	55.0	t	1	4.5	76.0	30.0	4.5	20	20	1973	2.4-3	0.75	5.5	5.5	4.9	5.9	5.6

5.5	100*	40	6.5	6.5	28	246	0	1	3	4	8	6	2	3	1	0			sd
7.5	230*	90	6.5	6.5	58	600	18	4	3	5	8	7	4	3	4	2	0		ad
6.0	360*	140			31	894	17	0	1	3	3	3	1	1	0	1	1		md
7.5	220*	80			127	894	101	7	1	3	4	4	2	3	1	0	1		ad
5.5	270*	100			23	74	12	3	1	1	4	2	0						ss
6.5	760+	290			9	74	7	0	0	0	1	1	0						as
8.0	850-	210			27	558	4	5	3	6	0	0	3	4	1	1			ad
5.5	60*	20			2	38	1	0	0	1	0	0							ss
6.5	600-	150			22	894	3	1	1	3	5	6	0	1	0	1	1		md
6.0	140*	55			5	261	0	0	0	0	2	2	0	0	1	0			mw
6.5	350-	75			13	261	0	0	2	2	1	2	2	2	2	0			aw
7.5	2350-	650			6	221	0	0	0	1	0	2	1	2	0	0			aw
5.5	75+	25			12	107	1	3	2	3	1	0	2	0	0				mw
7.5	120+	50			129	186	69	16	16	10	7	3	7	1	0				ad
6.0	300-	80			8	221	1	1	1	1	2	0	1	1	0				mw
6.0	1100-	300			6	2	6	0	0										mw
6.0	90+	35			6	301	0	0	0	1	1	2	1	0	1	0			mw
7.5	190*	75			20	389	0	0	1	5	1	4	5	0	4	0			ad
5.0	2500*	990			0														m
5.0	120*	50			2	280	0	0	0	1	0	0	0	0	1				ss
5.5	170+	70			5	389	0	0	0	0	1	0	0	1	3	0			mw
6.8	160+	60			11	389	0	0	1	3	2	3	0	2	0				ad
5.5	190+	70			2	356	0	0	0	0	0	0	0	0	2	0			ms
7.5	500-	125	6.8	6.8	29	389	3	0	3	2	5	8	5	1	2	0			ad
8.0	700-	180	7.0	7.0	6	279	0	0	0	0	0	2	3	0	1	0			aw
6.8	1100-	160			8	292	0	0	1	2	1	2	0	0	2	0			mw
6.0	170+	70			18	91	2	1	4	3	1	7	0						aw
6.5	660-	130			53	146	2	4	9	12	16	7	3	0					ad
6.8	700*	180			34	142	3	3	7	7	8	4	2	0					ad
8.3	800+	300	7.0	7.0	73	199	6	7	7	17	16	9	8	3	0				ad
7.0	1000-	250			16	292	0	0	3	1	3	3	3	1	2	0			aw
6.5	560-	140			1	136	0	0	0	0	0	0	1	0	0				ms
7.3	400+	150	6.5	6.5	28	443	0	0	2	3	3	4	6	6	3	1	0		ad
7.8	9000-	900	6.5	6.5	36	808	0	0	0	0	4	2	9	11	7	2	1	0	ad
5.5	200*	75			5	480	0	0	0	0	0	0	1	1	2	1	0		sw
6.0	1200-	230			10	457	0	0	1	0	1	2	3	0	2	1	0	0	mw
7.5	1500+	570			3	457	0	0	0	0	0	1	0	0	1	1	0		as
7.8	9000+	3500	7.0	7.0	10	329	0	0	0	1	0	1	4	3	1	0			aw
5.0	270*	110			3	127	0	0	0	0	1	0	2	0					sw
5.5	70+	25			2	457	0	0	0	0	0	0	0	0	1	1	0		ss
6.5	70+	25	?.?	?.?	3	538	0	0	0	0	0	0	0	0	2	1	0		ms
7.0	180*	70	6.5	6.5	4	538	0	0	0	0	0	0	0	0	3	1	0		ms
7.5	300+	110			21	469	0	0	0	0	1	6	4	5	3	2	0		aw
6.3	360-	90			4	102	0	1	0	1	1	0	1	0					mw
5.0	750*	280			0														s
6.5	520*	200	6.0	6.0	33	84	14	4	3	6	5	1	0						ad
6.0	290*	110			9	433	0	0	0	0	0	2	1	4	1	1	0		sw
6.5	310*	120			2	259	0	0	0	0	0	0	1	0	1	0			ms
5.5	220*	80			7	433	0	0	0	0	0	0	1	2	2	2	0		sw
5.5	120*	45			6	116	0	0	0	0	0	2	4	0					mw
7.0	400*	150			6	281	0	0	0	0	1	0	3	1	1	0			mw
7.0	500-	120			22	393	0	0	1	0	6	4	7	2	1	1	0		ad
5.0	110*	40			0														s
5.0	750*	280			0														s
7.5	600+	230	6.5	6.5	19	127	0	1	4	5	6	2	1	0	0				ad
5.0	750*	280			7	393	0	0	0	0	1	2	1	2	0	1	0		sw
7.5	100*	40	6.5	6.5	0														a
5.0	750*	280			0														s
6.0	110+	45			36	659	0	1	0	5	5	3	5	6	8	2	0		md
8.7	50*	20																	
7.3	1000-	70																	
3.5	80*	35			0														s
6.0	1800+	670			0														
7.0	250*	95	6.0	6.5	3	320	0	0	1	0	0	0	1	0	1	0			ad
5.5	85*	35			7	337	0	0	0	0	1	1	1	1	3	0	0		sw
7.5	1200+	460			3	210	0	0	0	0	1	0	0	2	0				aw
5.5	120-	15			0														m
5.0	100*	40			8	120	0	0	0	1	3	1	3	0					ss
6.0	380*	140			0														m
5.0	840*	320			6	440	0	0	0	0	0	0	3	2	0	1			sw
5.5	140*	55			1	0	0	0	0	0	0	0	0	1	0				ss

C694f	30.0	z	0		0.	0.					9.3-4	0.70	4.3				5.1
C696f	12.0	s	4	6.0	44.3	23.8	4.0	13	?	1276	4.9-3	0.80	6.0	6.0	7.1		6.0
C709f	140.0	z	2	4.0	62.7	28.0	3.0	10	5	1963	3.8-5	0.70	3.2				3.3
A729a	29.0	s	33	6.5	44.7	37.3	4.3	34	0	-800	9.3-3	0.80	6.5	6.5	7.6	6.6	6.3
H736a	39.0	z	0		0.	0.					1.4-4	0.70	3.2			5.2	4.0
H738f	85.0	t	1	3.0	52.1	54.4	3.0	?	?	1885	6.0-4	0.70	3.0	3.0	6.6	5.7	4.9
H739a	34.0	z	0		0.	0.					1.6-3	0.85	3.2				5.4
H740a	72.0	s	37	6.6	59.3	147.8	3.5	33	5	1851	1.2-2	0.80	7.7	6.5	6.5	7.2	6.4
?743a	38.0	m	102	5.5	51.5	141.5	3.3	50	3	1815	1.1-2	0.75	6.1	6.7	7.7	6.7	6.4
M745?	120.0	s	9	7.7	40.48	139.09	6.1	40	10	1906	?	?	8.4	8.4	7.2		
H755f	100.0	w	8	4.2	67.04	133.91	3.5	33	10	1968	2.8-3	0.75	5.1	5.9	5.2	5.2	5.7
H761f	500.0	z	0		0.	0.					1.0-5	0.70	3.2			6.4	2.6
N769f	45.0	s	11	5.9	42.5	26.4	4.1	40	2	1909	1.4-2	0.85	6.7	6.7	6.2		6.6

a_4 is the seismic activity of domain determined by the representative part of the earthquake recurrence curve, with allowance for coefficient b;

b is the averaged slope of the earthquake recurrence curve, estimated by correction for domains of different type with different value of M_{mx}^{obs};

M_{mx}^{obs} is 3.0, 3.5, 4.0, 4.5, 5.0, 5.5, 6.0, 6.5, 7.0, 7.5, 8.0;

the domain

"a" type:,0.85, 0.85, 0.80, 0.80, 0.80, 0.75, 0.75, 0.75, 0.75, 0.70, 0.70;

the domain

"f" type: 0.70, 0.70, 0.70, 0.75, 0.75, 0.80, 0.80, 0.85, 0.85, 0.90, 0.90;

$M^{(i)}$ ($i = 1, 2, 3, 4, 5$) are the estimates of the seismic potential of a domain by various methods;

M_{mx}^{*} is the final expert's estimate of the maximal possible magnitude of earthquake within a domain, with allowance for $M^{(1)}$—$M^{(5)}$;

T_{mx}^{*} is the recurrence period of an earthquake with M_{mx}^{*} within a domain, estimated by the earthquake recurrence graph, allowing for its right bend;

T_{mx}^{**} is the recurrence period of earthquakes with $M = M_{mx}^{*}$—0.5, estimated by the earthquake recurrence graph, allowing for its right bend;

M_s and M_d are the maximal expectable magnitude in the side, right and left bands of the axial domains, respectively;

n is the number of active faults, at least, partly falling into a given domain;

l_{max} is the maximum length of an active fault, at least, partly falling into a given domain;

the number of faults with the length (in km) within the indicated limits, at least, partly falling into a given domain: (1)< 10, (2) 10—15, (3) 16—25, (4) 26—39, (5) 40—63, (6) 64—100, (7) 101—158, (8) 159—250, (9) 251—399, (10) 400—639, (11) 640—1000, (12)> 1000;

X is the level of seismotectonic activity in a domain and its vicinity (a, active zone; m, moderately active zone; s, weakly active zone);

Y is the characteristic of the fault system in a domain (s, single faults; w, weakly developed fault system; d, developed fault system).

4.5	105*	45			0														
6.0	720*	280			0														
3.5	80*	35			0														s
6.5	2000-	400	6.0	6.0	15	388													md
4.5	570*	220	4.0	4.0	3	300	0	0	0	0	0	0	1	0	2	0			sw
4.0	700*	280			5	450													sw
6.0	2000*	800	5.0	5.5	0														s
6.8	270+	100	5.0	6.0	15	450	0	0	1	1	1	2	5	3	1	1			mw
6.8	380*	150	6.0	6.5	18	85	3	3	4	4	3	1	0						aw
8.0	80*	30			0														
5.5	40*	18			1	250	0	0	0	0	0	0	0	1	0	0	0		ms
3.5	80*	35			4	953	0	0	0	1	0	0	1	1	0	0	1		sw
6.5	250*	95			0														s

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